FEBRUARY 22, 1954

New 144-Mile Canadian Line . . . p. 54

RAILWAY AGE

The Standard Railroad WEEKLY for Almost a Century

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IN THIS ISSUE

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"Trains Are Here To Stay"

•

How NYC Prepares Rent Bills

•

Proposed Atomic Locomotive

•

How Soo Line Runs Sales Meeting

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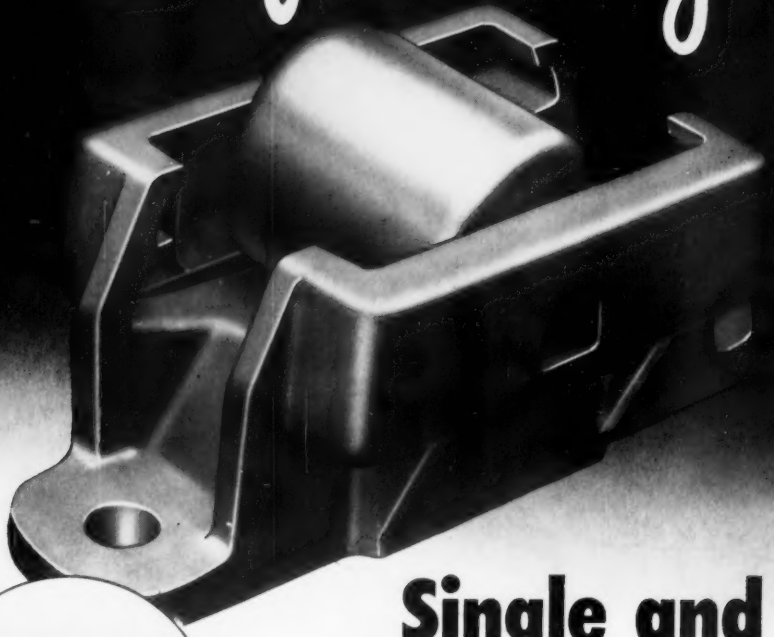
Self-centering..



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For 6 consecutive years, now, she's come out with a big smile and a happy answer—each year since 1948 more than half of all freight cars ordered for domestic service have been equipped with Unit Trucks.

This year she's happier than ever—in 1953 Unit racked up a whopping 82% of freight car sales. Unit is making good in a big way—for us, and for the American railroads.

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NEW YORK

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The fine trains of this era are setting a new style in travel. Sleek, swift, beautifully appointed, they are more than just a means of "getting there." When the passenger steps aboard, it is the start of a trip that makes every mile a luxury.

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These are wheels that you can buy and install with confidence. There are none better made.

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BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.

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NEW YORK CHICAGO ST. LOUIS SAN FRANCISCO

RAILWAY AGE

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February 22, 1954 **Vol. 136, No. 8**

Week at a Glance

How to train college men for careers leading to railroad executive positions was the subject of a two-day industry-college conference at the University of Michigan. 9

"There is nothing in sight to supplant trains; ahead of the railroads lies a great future," A.A.R. President William T. Faricy told the same Michigan conference in a dinner address. 10

An atomic-powered locomotive has been designed by a University of Utah nuclear physicist, as briefly reported in these columns last week. 15

Should railroads and trucks interchange l.c.l. traffic on through routes and rates? Shippers said "Yes," in a recent poll by our associated publication, *Railway Freight Traffic*. 17

Freight operating statistics — another roundup for large Class I railroads; this time for the months of November 1953 and 1952. 46

FORUM: On "piggybacks" the question is—not "if," but "whose." 53

The Canadian National's new line, from Sherridon, Man., 144 miles north to Lynn Lake, completed on schedule last fall, posed a number of difficult construction problems. 54

How the Soo runs a sales meeting — and some of the techniques it used to receive maximum practical value from such a meeting. 57

"Big" is the word for General Steel Castings Corporation, whose products have been part and parcel of the railroad industry for half a century. 60

EASIEST to install...
EASIEST to maintain!
HYATT freight car boxes

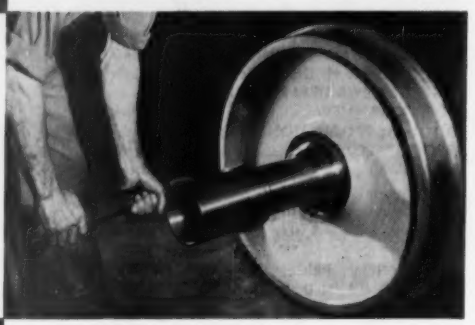
Hyatt Journal Boxes are ready to install just as they come from the factory. Simply remove shipping cover and slip box onto inner race. There are no pre-assembly adjustments!

Hyatt journal boxes are ready to install just as they come from the factory!

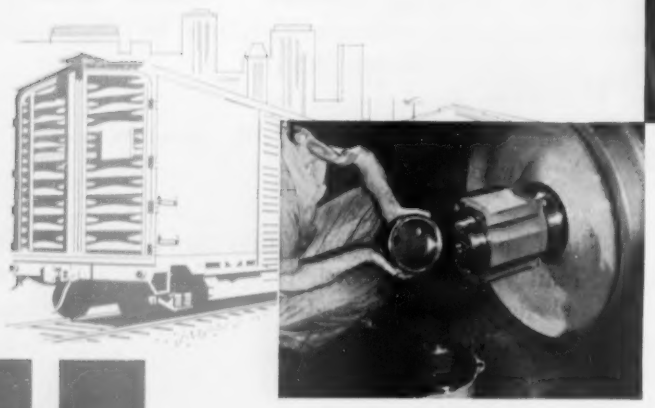
You invest in roller bearings to eliminate the hot box problem. *But over the long haul, Hyatt's ease of installation and maintenance is equally important!*

Installation of Hyatt boxes is a one-man job, and takes only a few minutes. No special tools are required and *bearing adjustments are not necessary!* The box is simply slipped onto the axle (over the one-piece inner race), locked into position, and lubricated. That's all.

Disassembly, naturally, is equally simple. *Press fits are not disturbed,* either when removing a box or a wheel, and because spare axles and wheels need to be fitted with inner races only, *spare parts inventory is substantially reduced.*



One-piece inner race is heated uniformly to 300°-325° F, slipped on the journal, and shrunk into position. No spacers or mounting fixtures are required.



After box is applied to axle, front cover is removed and locking cup is bolted to axle-end. Using a grease gun, lubricant is added through fitting and the box is ready to roll!

HYATT

STRAIGHT BARREL TAPER

HYATT BEARINGS DIVISION • GENERAL MOTORS CORPORATION • HARRISON, NEW JERSEY

ROLLER BEARING JOURNAL BOXES

Current Statistics

Operating revenues, twelve months	
1953	$10,664,317,337
1952	10,581,598,621
Operating expenses, twelve months	
1953	$ 8,135,476,779
1952	8,053,159,011
Taxes, twelve months	
1953	$ 1,184,857,140
1952	1,261,904,149
Net railway operating income, twelve months	
1953	$ 1,109,434,340
1952	1,078,312,684
Net income, estimated, twelve months	
1953	$ 875,000,000
1952	836,000,000
Average price railroad stocks	
February 16, 1954	62.13
February 17, 1953	66.97
Carloadings, revenue freight	
Six weeks, 1954	3,591,706
Six weeks, 1953	4,041,654
Average daily freight car surplus	
Week ended Feb. 13, 1954	108,660
Week ended Feb. 14, 1953	68,765
Average daily freight car shortage	
Week ended Feb. 13, 1954	522
Week ended Feb. 14, 1953	1,206
Freight cars delivered	
January 1954	4,944
January 1953	7,981
Freight cars on order	
February 1, 1954	27,959
February 1, 1953	77,414
Average number railroad employees	
Mid-January 1954	1,107,633
Mid-January 1953	1,195,490

RAILWAY AGE IS A MEMBER OF ASSOCIATED BUSINESS PUBLICATIONS (A.B.P.) AND AUDIT BUREAU OF CIRCULATION (A. B. C.) AND IS INDEXED BY THE INDUSTRIAL ARTS INDEX AND BY THE ENGINEERING INDEX SERVICE. RAILWAY AGE INCORPORATES THE RAILWAY REVIEW, THE RAILROAD GAZETTE, AND THE RAILWAY AGE GAZETTE.

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Week at a Glance CONTINUED

How high should the per diem rate be? Understandable differences of opinion were developed at recent I.C.C. hearings. 64

When the NYC makes rent bills, it saves about $6,000 a year by using two I. B. M. cards for all purposes, including "dunning" notices. 66

BRIEFS

Just as a reminder — March 31 is the closing date for that $500 prize contest for the best essay on the "inherent advantages" of railroad transportation.

An advertising program designed to tell the story of overregulation of railroads and the industry's subsidized competition has been launched by the Eastern Railroad Presidents Conference. The program consists of three series of advertisements, scheduled to appear in business magazines, agricultural publications, and magazines read by journalists.

The I.C.C. has postponed, from April 7 until July 1, the effective date of its decision in the Ogden Gateway case. The delay was granted at the request of the federal district court, to which the case has been appealed.

Some 35,600 railroad employees were awarded retirement annuities in 1953, the Railroad Retirement Board reports. The average annuity was $104 a month—higher than ever before—and roughly one annuitant in 10 received $140 or more. The average was about $28 higher than it was before 1951 amendments to the Railroad Retirement Act increased the annuity scale.

Local interests in Silverton, Colo., are forming the Animas Canyon Rail Road Company with the object of acquiring the Silverton branch of the Denver & Rio Grande Western if that road seeks abandonment of the 45-mile scenic line. The new company would operate the line as a summertime tourist attraction much in the manner that the D&RGW has run it up through last

Passenger Traffic Executives say:

"Now we know

why the Hertz Rail-Auto Plan switches millions of passenger miles to railroads!"

"AND—it can bring millions of additional miles in 1954!"

"We know . . . because we use the Hertz Rail-Auto Plan ourselves! On business or pleasure trips . . . wherever we go," say the General Passenger Agents, *"we travel by train for speed . . . comfort and relaxation . . . then at our destination we rent a clean new car from Hertz to drive as our own. This Hertz Rail-Auto Plan is convenient . . . sensible . . . and time-saving. And that's not all."*

"We know from personal experience that aggressive promotion of the Hertz Rail-Auto Plan is one sound way to switch millions of inter-city motorists from the highways to the railroads!"

And the facts prove it! Last year alone, people who rented cars from Hertz at their destination actually traveled more than 136,000,000 miles on railroads! These were people who used the Rail-Auto Plan. And—there are thousands more!

It is estimated that in 1953 motorists drove close to *500 billion miles* between cities. Analysis shows that they drove these hazardous tiring miles . . . NOT because they preferred to drive . . . BUT because many times they needed a car at their destination! And remember—this staggering potential of 500 billion miles has hardly been tapped! Now is the time to switch more of this huge mileage to the Hertz Rail-Auto Plan.

How you can help promote the Hertz Rail-Auto Plan . . . help switch additional revenue to your railroad

1. TRY the Rail-Auto Plan yourself. Enjoy its many advantages. See for yourself why thousands of travelers prefer it to highway travel.

2. TELL your ticket agents about the 10% commission Hertz pays them. Urge them to ask passengers this simple question: *"May I reserve a car from Hertz at your destination?"* It takes only a few minutes to fill out the reservation forms . . . and the Hertz station concerned will pay—promptly—10% commission on the total rental charge.

3. FREE! To remind your passengers of Hertz Service and the Rail-Auto Plan, Hertz provides plastic 3¼″ signs attractively printed with these words: "Reserve your Hertz Rent-A-Car from your ticket agent". These signs clamp on the grill of your ticket agents' windows.

Hertz also provides for the counters of your ticket agents and for ticket envelopes, small 2″ x 4½″ folders describing Hertz Service and the Rail-Auto Plan. Both items available to you in any quantity at no charge.

4. HERTZ now spends $1,000,000 a year in leading national magazines to sell the Rail-Auto Plan. In your own general advertising, promote the Plan. Show its many advantages. Use displays in your ticket offices. Advertise the Plan in your timetables . . . on your billboards . . . highway over-passes.

5. AND REMEMBER—only Hertz—the world's largest rent-a-car system—offers 30 years' experience . . . with more than 8,600 cars at 700 stations in over 550 cities throughout the world. Every car is new, clean . . . and Hertz furnishes all gasoline, oil . . . Public Liability, Property Damage, Fire and Theft Insurance, and $100.00 deductible collision protection. And remember—Hertz has more than 1,500,000 people who hold Hertz Charge Cards and Courtesy Cards. Also, Hertz honors Rail Credit Cards.

6. If you have any questions—WRITE today for additional information . . . reservation forms and other material that your ticket agents can use.

Department D24, 218 South Wabash Avenue,
Chicago 4, Illinois; Phone WEbster 9-5165

HERTZ *Rent-A-Car* **SYSTEM**

Week at a Glance CONTINUED

fall. So far, the Rio Grande has not revealed any plans for the future of this, its last narrow-gage passenger-carrying line. But the Silverton interests are already trying to raise money "just in case."

A "bare-fisted fight" was promised by William White, president of the New York Central, after Robert R. Young announced his intention of waging a proxy fight for control of that railroad. Mr. White told a February 12 press conference in Chicago that he did not know just how much strength "the Young forces can muster," but said he would "not be surprised" if they attempt to buy more stock before the annual stockholders' meeting, May 26.

"Morgan-dominated" is the phrase Mr. Young has used to describe the present NYC board of directors. He has predicted he will be able to muster three times as many stockholders' votes at the May 26 meeting as the road's present management.

The transportation library of Charles W. Braden, late general traffic manager of National Distillers Products Company, has been presented to Amherst College. The Braden Memorial Fund, set up by Mr. Braden's friends at the time of his death, also has been given to Amherst to permit addition of new volumes to the library, which deals with transportation history, economic regulation and allied subjects.

Motion for a new trial of the Santa Fe union shop case (*Railway Age*, February 15, page 7) has been filed in Potter County district court at Amarillo, Tex., by the 16 non-operating unions. In their motion, the unions cite a total of 84 different points where they feel the court erred. Judge E. C. Nelson has the motion under consideration, but at press time for this issue, he had not made a decision. In the event the motion is not granted, the unions will probably appeal the decision in the Texas Court of Civil Appeals.

The National Mediation Board has been asked to step into the case of the Railroad Yardmasters of North America, which is seeking a 45 per cent pay boost for its membership "to restore historic wage relationships" with other railroad workers. Elsewhere the labor front was quiet as this issue went to press.

Railroad workers are among the best paid employees in all U. S. industries, according to an Eastern Railroad Presidents Conference study based on Census Bureau figures for 1950. The conference studied incomes in many of the leading industrial areas of the east, and in each area median annual income for railroad employees was higher than the median for employees of all industry in the area.

Some private truckers want "piggyback," and have so stated in a resolution forwarded to the I.C.C. by the more than 200 members of the Private Truck Council of America. Convening at Chicago, the group urged the commission to make the hauling of truck trailers on railway flat cars available to private truck owners as well as to for-hire motor carriers.

"The 4,000 steam locomotives cut into scrap iron every year would be worth their weight in gold in goodwill to the railroads of America if they were given instead to the children of cities and towns along the tracks," Howard Skidmore, Chesapeake & Ohio director of public relations and advertising at Cleveland, told a recent railroad group meeting at the University of Toledo.

7,000,000 YARDS MOVED on Rock Island's Atlantic cut-off

Typical terrain on the route of the cut-off. Cuts up to 70 feet deep were common and mud made earthmoving difficult.

In September, 1953, the final spike was driven on the Atlantic-Council Bluffs cut-off of the Rock Island Lines. The new route was originally recommended by General Grenville M. Dodge in 1857, but because of the immense cut-and-fill operations involved, the task had to wait for modern earthmoving machines.

The new line goes across the rough terrain of western Iowa, cutting off more than 10 miles of distance and reducing curves and grades. Cuts up to 70 feet were made through hills to fill adjacent valleys.

In completing the contract, 7,000,000 cubic yards of earth were moved, much of it dead mud that made scraper loading almost impossible. But Cat* DW21 and DW20 Tractors and Scrapers did the job, with D8s as pushers. There were 42 Caterpillar units on the job and not one of them averaged less than 300 hours of work per month, despite the tough conditions. In the opinion of the contractor, Orville Eblen Construction Co., "No other machinery built could have made such a record on this particular job."

The Atlantic cut-off has been an expensive undertaking but it should well repay the Rock Island Lines. Faster schedules and lower hauling costs will directly benefit the railroad, shippers and the traveling public.

Caterpillar Tractor Co., Peoria, Illinois, U. S. A.

CATERPILLAR*

*Both Cat and Caterpillar are registered trademarks—®

ROSCOE O. BONISTEEL, regent of the University of Michigan, presided at the opening luncheon of the railroad-college conference. Counter-clockwise around the table are Marvin L. Niehuss, vice-president and dean of faculties, University of Michigan; William T. Faricy, president, A.A.R.; James B. Edmonson, dean emeritus, School of Education, University of Michigan; Col. Robert S. Henry, A.A.R.; and (with back to camera) Perry Shoemaker, president, Lackawanna.

How Train Railroad Men?

Are railroads remiss in their recruiting of non-technical college graduates? What kind of specialized instruction in transportation is desirable?

Selection and training of railroad management personnel was the subject of a conference of railroad officers and educators held at the University of Michigan, Ann Arbor, February 10-11 under joint auspices of the university's Transportation Institute and the Michigan Railroads Association. Cooperating in the program were, also, the Association of American Railroads and the university's Extension Service. In attendance were some 35 railway officers (mostly chief executives and vice-presidents) and about 40 educators. The latter group included not only engineering and business school deans and professors from Michigan, but men occupying similar positions in some 18 other principal universities in the Mid-West and Lakes area. Detailed planning of the conference was centered largely in Professor John C. Kohl, director of the university's Transportation Institute — with whom was actively associated Roob H. Allie, secretary of the Michigan Railroads Association.

Animated discussion at the conference brought into the critical spotlight the fact that, while many railroads have continuing programs for bringing graduates of engineering schools into railroad work, not many have similar programs for recruiting graduates of schools of business or of other university courses. Also getting lively discussion was the question of what training engineering schools educating boys for railroad service should give, i.e., whether to emphasize technical studies and minimize courses directly applicable to transportation, or vice versa.

Guest of honor at a dinner on February 10 was A.A.R. President William T. Faricy, who was introduced by President Walter J. Tuohy of the Chesapeake & Ohio. Mr. Faricy's address, reported on the next page, emphasized the modernity of the railroad industry — its continuing essentiality, and the likelihood that "ahead of the railroads lies a great future."

The pattern of the discussion at the conference was set in the opening presentation by President Perry M. Shoemaker of the Lackawanna (an alumnus of Michigan), who outlined rather detailed specifications of qualities needed in a railroad executive, somewhat as follows:

Personal — A good family background; honesty and integrity; varied interests (e.g., in school, extra-curricular activities rather than studies exclusively); friendliness toward people and ability to get along with them; and a sense of, and interest in, the individual's responsibilities as a citizen.

General—Full recognition of business' responsibility to contribute to the general welfare under the system of free enterprise; appreciation that it is the goal of our system to provide continuing progress and opportunity; and respect for the importance of religion.

Technical — Basic competence in reading, writing and speaking (viz., skill in "communication"); basic competence in analysis and evaluation (a habit of thought that engineering education usually imparts); a working knowledge of U.S. history; and fundamentals of engineering (because the bulk of railroad work—operations and maintenance—involves engineering considerations).

Mr. Shoemaker went on to say that, in his opinion, universities should provide a course leading to a bachelor's degree in transportation engineering. Students in such a course would not get all the detailed engineering instruction mechanical or civil engineers do; but, instead of engineering detail, would be instructed in transportation aspects of psychology, economics, law, accounting and materials handling. Mr. Shoemaker also would have these "transportation engineers" educated in transportation history—not railroad history alone. Those going into railroad work should also be grounded in modern operating, maintenance-of-way and signaling practice, and schooled in economics of railroad regulation. He made it clear, however, that he would like to see the "transportation engineer" trained, not for any one branch of transportation, but with a background in trucking, aviation and water transport as well as in railroading. Specialization in any one branch of transportation should come after fundamental instruction applicable to all branches.

Most of the engineering educators present who spoke on the subject disagreed with the proposal that undergraduate instruction be given in all the non-technical courses that Mr. Shoemaker advocated for his "transportation engineers." These educators would prefer to turn out straight mechanical or civil or electrical engineers—with very little orientation toward specific industries—for the B.S. degree. They would delay the kind of non-technical courses specified by Mr. Shoemaker for post-graduate study, after the stu-

dent had made a definite decision as to the industry chosen for his life work.

Dean George G. Brown of Michigan's engineering school agreed in large measure with Mr. Shoemaker's specifications of desirable qualities, but questioned that a school could impart all this fund of information in an undergraduate course.

Technological problems are increasing all the time, he said. Doesn't industry, including the railroads, need the type of skill which can put this new knowledge to work? Before intensive atomic research was undertaken, some 95 varieties of atoms were known—now the number has mounted to 700. Electronic computing machines, he continued, have opened up still other possibilities of widespread profitable application. Does the railroad industry want men who understand these innovations, or does it want only the combination engineer-administrator?

Vice-president Karl A. Borntrager (New York Central) expressed the opinion that railroad work, while in some respects different from that of other industries, is not so much different that essentially different qualities and training are needed. He said railroads do not need designers and originators so much as "adapters"—people who can take available equipment and turn it to profitable railroad use.

Professor Ernest Boyce (civil engineering), of Michigan, said a civil engineer's training is in the direction of adaptation to specific problems rather than in mastery of a science. However, where more specific instruction is required than that now provided, the student can come back for graduate study.

Chief Engineer S. R. Hursh (Pennsylvania) stated a preference for students grounded in basic engineering rather than in transportation. "If a man has the basic training," he added, "we can make a railroad man out of him."

Professor Virgil D. Cover (transportation), of the College of Business Administration, Syracuse University, expressed the opinion that railroads need abler management than most other industries, primarily because they are so heavily regulated. That is, railroad executives have all the problems to solve that managers of other industries have—plus the added handicap of having to solve those problems within the framework of a regulatory system which is far more complex and restrictive than that confronting any other industry. Professor Sidney Miller (transportation), of the University of Pittsburgh, expressed a similar opinion, adding that the primary requisite is "a fellow who has been trained to think, even if his college specialty happens to be ancient Greek."

President Tuohy of the C&O carried this line of thought still further. Without belittling the railroads' need for technical competence, he pointed out that a great many railroad problems lie entirely outside the sphere of skill which technological education provides—such problems as inequitable regulation, employee relations, "this rate structure of ours," the proper sales approach, finance, breaking away from tradition, and situations requiring imagination and foresight. In his opinion, railroads need systematic recruiting of more good college men with a wide variety of studies, and not engineering students only.

Two speakers prominent in the field of railroad engineering—S. R. Hursh and C. H. Mottier (Illinois Central)—told of the specific systems of recruiting and training of engineers on their respective railroads (including subsequent transfer of many of these engineers to other departments). It was evident from the interchange between the railroad engineers and the engineering educators present that effective liaison exists between Committee No. 24 of the American Railway Engineering Association and the various schools of engineering. C. H. Holzworth, manager of personnel, Balti-

"Nothing in Sight to Supplant Trains"

Improvements produced by research and investments will provide "still more service with still greater economy"

By

WILLIAM T. FARICY
President, Association of American Railroads

"The growth and development of this nation have gone forward with the growth and development of power transportation on land. . . The development of railway power has not been the only application of power to land transportation. Besides taking over the function of local horse-and-wagon drayage, motor units now carry a considerable portion of the intercity movement of persons and goods. Power is used to pump liquids and gases through pipes, and to drive ships and barges on natural and artificial inland waterways, and more recently power has come to be used to lift loads into the skies. . . It is little wonder that to some casual observers it may have seemed that the locomotive pulling trains of cars on tracks, the combination which had wrought the original revolution in transportation, was about done for.

"Nothing could be farther from the facts. The railroad revolution which started more than a century ago is far from finished. Behind the railroads there is a great past; ahead of them, a bright future. . . .

"The most obvious warning signal ahead is the fact that of late years the railroads have carried a relatively smaller share of the nation's total traffic. . .

"If this relative decline were due to some inherent and ineradicable disadvantage of the railroads, then the warning would be serious. This is not the case. It is true that for some special purposes, and for particular types of traffic, various other forms of transportation have some advantages. . . . But when it comes to the great broad range of commerce, the inherent advantages are with the railroads. The railroads are the only form of transportation which could perform services of such breadth and variety, and do it on a fully self-supporting basis, at charges which average only about a cent and a half for hauling a ton of freight one mile. These average revenues of a cent and a half received by the railroads compare with an average of more than 5 cents per ton-mile received by interstate highway carriers reporting to the Interstate Commerce Commission.

"But there is no such thing as freight which is 'average' either in rates or in transportation characteristics. There are, instead, many thousands of kinds of particular freight, moving over a great variety of distances and routes. Some forms of transport compete in those areas where railroad rates are above average. Others compete in those areas of traffic in which rates may be below average, but in which transportation characteristics such as volume, density, ease of handling and return loading are particularly attractive. None of these instances alters the general proposition that no one of the competing forms of transport, nor all of them put together, could take over the basic job of the railroads.

"I would not be understood as saying that the railroads are not deeply concerned with the relative decline in their traffic. They most definitely are concerned. They regard as one of their most important jobs today the seeking out of practicable ways and means of regaining that portion of the traffic for which they are inherently best fitted, all costs and service considered.

"To do this, the railroads are carrying forward the greatest improvement program in their history. It is a program soundly based on ever-increas-

From an address delivered by Mr. Faricy at a seminar on "Railroad Management—The Next Generation," held at Ann Arbor, Mich., February 10 and 11.

more & Ohio, told of his company's program to provide personnel competent both technologically and in their knowledge of specific railroad problems.

Messrs. Hursh and Mottier indicated that no special difficulties had been encountered in their experience with training and advancement of technical men, because of union seniority rules. Vice-president Milton G. McInnes (Erie), however, suggested that trainees in the operating, accounting and other departments did encounter this difficulty—at times to a serious degree.

Dean O. W. Eshback of Northwestern Technical Institute (who had many years of experience as a recruiting officer for one of the country's largest corporations) offered some practical guidance in effective recruiting of capable men—the substance of which pointed to the conclusion that such recruiting, since it is highly competitive, must be made a profession by a competent officer who will give the problem continuing attention and develop the requisite skill. Professor John W. Riegel, director of Michigan's Bureau of Industrial Relations, outlined some specific problems and their solution in the area of selection and training, in the light of an expert viewpoint in industrial and personnel relations.

In summarizing the discussion at the close of the conference, James G. Lyne, editor of *Railway Age*, said two important questions had been raised:

(1) Whether railroads were remiss in not recruiting and training more non-technical college graduates than they now do; and (2) whether the kind of specialized instruction in transportation subjects outlined by Mr. Shoemaker should be given to engineering students as undergraduates, or whether this knowledge should be imparted in post-graduate study. The speaker said final answers were not reached on either of these questions at the conference—which was not necessary, since they could and should be further weighed and discussed at other conferences of the same kind.

Mr. Lyne went on to express the opinion that—quite apart from specific answers to practical questions which could be reached at such meetings—the conference itself was the important thing, because it brought railroad men and college instructors together for mutual acquaintance and understanding.

University teachers, he said, are an important part of the "censor class" in America—who perform the same socially useful service to business leadership that dramatic critics perform for the theater or literary critics do for literature. In the past three decades, the function of academic criticism in the field of transportation has languished—because of too few competent critics and too little attention paid, either by railroads or universities, to the few in operation. In transportation, the United States is trying to operate a "mixed system"— half socialized and half free.

The academic critics of past generations helped railroads work out a "wonderful and intricate system" of pricing for monopoly conditions. Conditions changed, but the old system was frozen into law and regulation and is still in effect.

Only, Mr. Lyne added, by closer liaison between transportation people and the academic "censor class" is it likely that an adequate degree of constructive critical activity will be engendered to bring about correction of present unwholesome conditions.

The railroad industry, the speaker said in conclusion, is confronted with no insurmountable economic or technological handicaps. Its difficulties are wholly "institutional"—that is, they lie in human relations and human conduct. They can be solved if enough of the "right people" can be brought to understand the problems and will devote thought and discussion to their solution.

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ing activity in broad fields of research. . . Operating methods in the fields of transportation, maintenance of way, and maintenance of equipment are undergoing constant study and steady improvement. Office work, accounting, ticket selling and reservations, all kinds of operating procedures, are under critical examination, with new and improved ways of getting things done being discovered and put to use.

"All these and many other advances could not have come to fruition without investment by the railroads of vast sums to provide the improved equipment which research has devised, and to put into effect improved procedures which better tools have made possible. . . The improvements which this investment has produced add to the solid advantages of the railroad industry in its business of producing high-volume, low-cost transportation service for the people of America, on a self-supporting, competitive basis. The improvements will continue at a pace determined by the needs of the industry and its ability to finance further improvements. Improvements already projected for 1954 call for capital outlays of some $400,000,000 for better roadway and tracks, yards and terminals, signals and structures, and another $400,000,000 for new locomotives and freight and passenger cars. . . .

"The use of new devices and facilities calls for new kinds of skills in railroading, adding to the already long list of different occupations involved in the business of producing railroad service. Just as better tools call for continually enlarging the roster of skills required to run a railroad, so does the task of planning, organizing and directing railroad operations call for a continually broader outlook on the part of management. These are the men whose grasp of railroading must go beyond particular technical qualifications, valuable as those are, to encompass the art of combining the parts into a smoothly working whole. One of the methods for stimulating a broader view on the part of management has been their contact with academic leaders in seminars on transportation conducted by a number of our universities.

"The future for the railroads rests upon two foundation facts — the geography of the North American continent, and the nature of transportation by rail. The North American continent is a unit, made so by its railroads. Long years ago, by voluntary action the railroads established a standard gage of track, developed uniform standards of physical equipment, set up arrangements for interchange of cars in through routes and movements, and developed the system which makes possible the continent-wide commerce of America.

"To meet the needs of such commerce, there is nothing in existence and nothing in sight which can take the place of the train of cars on tracks. Transportation in individual unit vehicles has a high degree of flexibility and convenience but it lacks the economy of mass movement in trains of cars. Mass movement on truly natural waterways such as the Great Lakes, and in some cases on improved or artificial waterways, offers economy but it lacks the ability to go anywhere and in any season which is characteristic of rail service.

"Only in trains of cars is it possible to combine the convenience and flexibility of the separate car with the economy of mass movement. These trains of cars, pulled by a unit of motive power and controlled by a single crew, can be operated only on a surface which guides the wheels of the cars as they 'track' behind the locomotive. And the one surface on which this can be done most effectively is railway track as it has developed during more than a century. These tracks have grown stronger and safer, the trains have grown heavier and faster, until today 5,000-ton trains are common and even 10,000-ton trains are not rare.

"Such vehicles as these, and the trains of tomorrow, turning out still more service with still greater economy, will continue to furnish the foundation for the constant improvement in American life wrought by the application of mechanical power to land transportation."

People in the News

Test Is New Assistant Secretary of I.C.C.

Robert J. Test, a public relations field representative for American Trucking Associations, has been appointed assistant secretary of the Interstate Commerce Commission.

Mr. Test, 43, will assume his new duties March 1. He will fill the position left vacant last October when George W. Laird was promoted to I.C.C. secretary.

The Civil Service "job description" for the assistant secretary has been revised, and it is understood Mr. Test will perform "some public information duties." However, both Mr. Laird and

Fabian Bachrach

Robert J. Test

E. F. Hamm, Jr., the I.C.C. managing director, were reluctant to identify Mr. Test as "a public relations officer."

The assistant secretaryship is now rated as GS-14, and carries a base salary of $9,600 a year.

Mr. Test has been with A.T.A. since 1939. Until 1942 he was on the editorial staff of Transport Topics, the association's weekly newspaper. After service in the Army, he returned to A.T.A. in 1946 and was appointed chief of the publicity section. He was made northeastern field representative for the public relations department in April 1953.

Grossman Named to Remain as B.L.I. Chief

President Eisenhower has asked the Senate to approve Charles H. Grossman's continuance in the directorship of the Bureau of Locomotive Inspection, Interstate Commerce Commission.

Mr. Grossman has held the directorship since last September. He is serving pursuant to a "recess appointment" which the President gave him after last year's session of Congress adjourned without action by the Senate on his original nomination.

Director Grossman succeeded Edward H. Davidson, who retired September 30, 1952. During the year which elapsed until appointment of Mr. Grossman, Assistant Director Allyn C. Breed served as acting director. Mr. Breed, who has been with the bureau since 1911, plans to retire at the end of this month (*Railway Age*, October 19, 1953, page 17).

When Mr. Grossman assumed the directorship he was a member of the bureau's staff of inspectors with headquarters at Albuquerque, N.M. He was senior inspector in length of service, having joined the staff in April 1918. His photograph appeared in *Railway Age* September 28, 1953, page 35.

Organizations

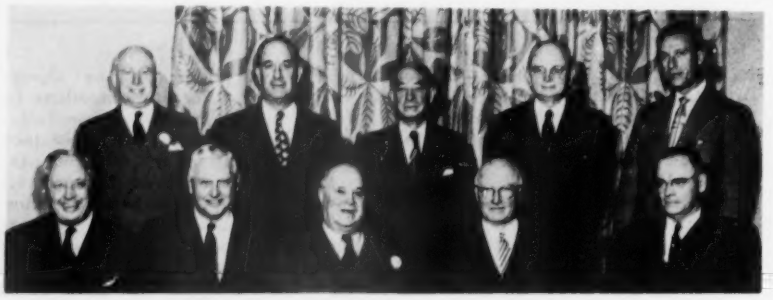
Mechanical Reports To Be Acted on in June

A recent circular letter of the A.A.R. Mechanical Division explains that, in the absence of an annual meeting in 1954, committees of the division will prepare annual reports in the usual manner for consideration at a meeting of the General Committee, probably on June 29 and, if necessary, on June 30. The General Committee will review all the reports to decide which recommendations shall be submitted to letter ballot vote of members, and what other items of interest shall be passed on as information.

As in 1938, when no annual meeting of the division was held, a combined report of the General Committee and a letter ballot circular will be printed and distributed as soon as practicable after the General Committee meeting in June. This procedure is in accordance with the division's rules of order.

With no annual meeting of the division in 1954, there will be no published proceedings, but committee reports in abbreviated form and other related data handled during this year will be included in the next subsequent proceedings.

The 47th annual dinner of the **Traffic Club of Washington, D.C.,** was held February 10 at the Statler Hotel in that city. Approximately 750 members and guests attended. The toastmaster was Captain Willard C.



RAILROAD EXECUTIVES MEET . . .

AT ST. LOUIS, when President Wilson McCarthy of the Denver & Rio Grande Western recently visited that city. From left to right in the front row are Presidents Clark Hungerford, Frisco; Paul J. Neff, Missouri Pacific (chief executive officer); Arthur Atkinson, Wabash; Donald Fraser, Missouri-Kansas-Texas; and Harold McKenzie, Cotton Belt. Standing, in the same order, are: Herbert Ward, Illinois Terminal; Armstrong Chinn, Terminal Railroad Association of St. Louis; Mr. McCarthy; James Davies, Alton & Southern; and Ralph Schmidt, Manufacturers.

. . . AND AT MONTREAL, when the Canadian Railway Club held its 46th annual dinner. Left to right: M. J. Alger, vice-president, New York Central; J. H. Nuelle, president, Delaware & Hudson; Donald Gordon, chairman and president, Canadian National; Carl Niderost, Q.C., president, Canadian Railway Club and assistant secretary, Canadian Pacific; N. R. Crump, vice-president, CPR; and T. G. Sughrue, president, Boston & Maine.

Johnson, U.S. Navy, who was introduced by the club's president—Joseph L. Henning, general agent, Denver & Rio Grande Western. Guest speaker was Phil K. Yonge, "the Rocky Mountain Prospector."

Charles E. Williams, general passenger traffic manager of the New Haven, will speak at a meeting of **Railroad Enthusiasts, New York Division,** at 8 p. m., February 26, in the New York Central-New Haven Y.M.C.A. auditorium, 224 East 47th st. His subject will be "Railroading Yesterday and Today".

The mid-winter meeting of the **American Society for Metals** will be held March 4-5, at the Hotel Statler, Boston.

Charles S. Morris, past-president of the New York Warehousemen's Association, will be the speaker at a dinner meeting of the **Women's Traffic Club of New York,** March 9, in the Park Sheraton Hotel.

E. A. Warner, former New York district manager for the Union Switch & Signal division of Westinghouse Air Brake Company, has resigned as head of the executive committee of the **Signal Appliance Association.** His successor is A. E. Heimbach, executive vice-president, General Railway Signal Company. E. F. Galvin, Simplex Wire & Cable Co., is vice-chairman.

The **American Society of Mechanical Engineers** will meet in Mexico City, March 10-12. Two papers of interest to railroad men will be presented, as follows: Successful Application of Standard Diesel Electric Power to Foreign Railroads, by Manuel Alonso, vice-president, American Locomotive Company; and Diesel Plant Design—Influence of Fuels and Higher Engine Ratings, by Robert Cramer, Jr., assistant chief engineer, Nordberg Manufacturing Company.

Labor & Wages

Labor Would Liberalize Pension Act

Bills sponsored by "standard" unions introduced in Senate and House; would also amend Railroad Unemployment Insurance Act

Union-sponsored bills to liberalize benefit provisions of the Railroad Retirement Act and Railroad Unemployment Insurance Act have been introduced in the Senate and House. The liberalization plan also contemplates increased retirement and unemployment taxes.

The bills, S.2930 and H.R.7840, are identical, and their introducers issued statements saying the bills were jointly sponsored by "all standard railway labor organizations." The statements embodied a letter to that effect which was signed by an officer of each of the four train and engine service brotherhoods, and by A. E. Lyon, executive secretary of the Railway Labor Executives Assocaition.

Smith-Wolverton Bill — S.2930 was introduced by Senator Smith, Republican of New Jersey, for himself and four other members of the Senate Committee on Labor and Public Welfare of which Mr. Smith is chairman, and to which the bill was referred. The others are Senators Murray of Montana, Lehman of New York, and Kennedy of Massachusetts, Democrats, and Ives of New York, Republican. The House bill was introduced by Representative Wolverton, Republican of New Jersey, chairman of the House Committee on Interstate and Foreign Commerce to which this bill was referred.

The proposed new benefit provisions would reduce, from 65 to 60, the age at which widows become eligible for survivor benefits, and remove the requirement that a widow who is also a retired railroad employee must offset her survivor benefit against her own annuity. The bill provides for both to be paid.

Other retirement-act provisions which would be liberalized include the so-called disability work clause which provides an earnings test to determine whether a disability annuitant shall be deemed to have recovered; provisions covering survivor benefits for disabled children and widowed mothers; and provisions relating to the crediting of compensation earned after age 65.

Tax Hike—The higher retirement and unemployment taxes would result from the bill's proposal to increase the maximum compensation that is taxable under both systems from $300 to $350 per month. The $350 would also apply for purposes of calculating retirement and unemployment benefits. As to the latter, it is also proposed that the daily benefit rate shall not be less than the last daily rate of pay at which the beneficiary worked in railroad employment, but with a maximum of $8 per day.

Meanwhile, the Senate Committee on Labor and Public Welfare held hearings last week on pending bills which would repeal the Retirement Act's so-called "dual benefit" provision. That provision, added in 1951, stipulates that if an employee is eligible to receive a railroad retirement annuity based in part on untaxed service prior to 1937, and is also eligible to receive a social security benefit, he does not receive the full amount of both, but an adjustment is made by reducing the railroad retirement annuity.

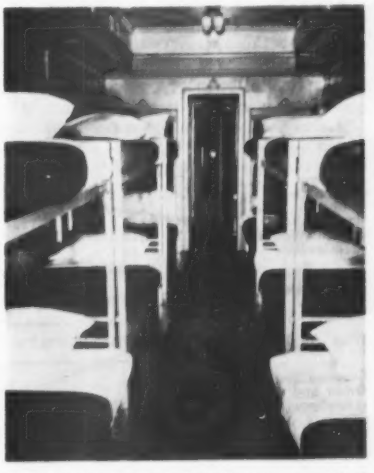
The repeal proposal was opposed at the hearing by J. Carter Fort, vice-president and general counsel of the Association of American Railroads. Mr. Fort said repeal would substantially increase expenditures of the retirement system at a time when "there is no money in that system to absorb any additional cost."

Board Recommends Raises For Express Employees

Wage increases for employees of the Railway Express Agency in Detroit, Pittsburgh, Milwaukee, New York, Chicago and other metropolitan areas have been recommended by an emergency board in a report made to President Eisenhower on February 17.

The board also recommended elimination of wage differentials between white and negro platform employees of R.E.A. in the Southeast. That would put the minimum wage of the negro employees at $273.75 per month, which the report said was "the Agency national minimum paid to white platform employees." The recommendation also called for "equal pay for equal work" without regard to race in jobs rated above the minimum.

Members of "Clerks" — REA employees involved are represented by



"SKI-HUT" ON WHEELS is provided by the New Haven for winter sport enthusiasts who desire informal, inexpensive accommodations for week-end trips. The car, a converted parlor-lounge, is chartered to a New York ski club for the season. Double-tier bunks accommodate 28, and a mid-car "galley" provides facilities for preparing drinks and light meals.

the Brotherhood of Railway Clerks. The brotherhood demands were for raises to remove alleged inequities in 13 metropolitan areas. The emergency board was created by President Eisenhower after strikes at Pittsburgh, Milwaukee and Detroit threatened to spread to other cities.

Under the board's recommendations, drivers in Detroit, Pittsburgh and Milwaukee would receive increases of approximately $21, $36 and $28 per month, respectively, and sorters $11, $32 and $23 per month, respectively. In New York and Chicago, where only sorters are involved, increases of $17 and $14 per month, respectively, were recommended. In remaining cities, lesser increases or no increases were recommended.

Members of the emergency board were Chairman Fred W. Messmore, William E. Grady, Jr., and G. Allen Dash, Jr. They held public hearings last month at Chicago.

Figures of the Week

Freight Car Loadings

Loadings of revenue freight in the week ended February 13 totaled 623,706 cars, the Association of American Railroads announced on February 18. This was a decrease of 679 cars, or 0.1 per cent, compared with the previous week; a decrease of 57,898 cars, or 8.5 per cent, compared with the corresponding week last year; and a decrease of 114,070 cars, or 15.5 per cent, compared with the equivalent 1952 week.

Loadings of revenue freight for the week ended February 6 totaled 624,385 cars; the summary for that week, compiled by the Car Service Division, A. A. R., follows:

REVENUE FREIGHT CAR LOADINGS

For the week ended Saturday, February 6

District	1954	1953	1952
Eastern	110,328	125,475	128,610
Allegheny	120,942	146,392	148,946
Pocahontas	44,504	47,424	60,334
Southern	120,003	128,438	135,322
Northwestern	69,382	72,322	79,994
Central Western	103,407	112,383	119,728
Southwestern	55,819	58,179	60,985
Total Western Districts	228,608	242,884	260,707
Total All Roads	624,385	690,613	733,919
Commodities:			
Grain and grain products	43,836	42,957	49,813
Livestock	6,172	6,229	8,166
Coal	113,148	119,633	148,734
Coke	9,305	15,551	15,654
Forest products	40,656	44,947	43,532
Ore	16,307	19,510	20,196
Merchandise l.c.l.	64,782	70,304	78,024
Miscellaneous	330,179	371,482	369,800
February 6	624,385	690,613	733,919
January 30	628,190	697,442	731,218
January 23	617,226	697,515	728,015
January 16	619,871	705,017	747,660
January 9	624,229	688,110	744,710
Cumulative total, six weeks	3,591,706	4,041,654	4,295,638

In Canada.—Carloadings for the 10-day period ended January 31 totaled 84,455 cars, compared with 64,484 cars for the previous seven-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
January 31, 1954	84,455	39,639
January 31, 1953	113,557	47,587
Cumulative Totals		
January 31, 1954	266,351	116,633
January 31, 1953	314,982	132,266

Competitive Transport

Trucker Seeks Approval Of "Sea-Land" Service

The Interstate Commerce Commission has been asked to approve a motor carrier-water carrier merger, the purpose of which is the establishment of a "sea-land" freight service similar to that carried on by Seatrain.

The McLean Trucking Company, largest motor carrier headquartered in the South, is seeking I.C.C. approval of a merger between McLean and the S. C. Loveland Company, a water carrier.

If the commission approves the arrangement, the carriers plan to purchase four trailer-transport ships. They would begin service between one South Atlantic port, probably Wilmington, N. C., or Charleston, S. C., and two North Atlantic ports, New York and Providence.

This "sea-land" service will benefit the shipping public "by providing the economies of lower-cost water transportation coupled with the flexibility of modern door-to-door motor freight service," according to a statement by McLean.

Ships contemplated for the "sea-land" service would carry approximately 240 trailers. McLean estimates the "complete loading and unloading cycle" would take only four hours per ship.

New England Type Town Not a "Municipality"

The Interstate Commerce Commission has found that a New England type town is not a "municipality" possessed of a commercial zone within the meaning of the Interstate Commerce Act's section 203(b)(8).

The commission also followed through to determine that a motor carrier's authority to serve a New England type town is territorial in character and not susceptible of expansion, by construction, to serve a "municipality" or an unincorporated urban community.

The report making these findings was by the commission's Division 5 in a case docketed as No. MC-C-1441.

"It's Unwise to Degrade The Trucker"—Brown

"We cannot, I do not, and we should not degrade trucking service," Warren Brown, president of the Monon, told members of the South Bend Transportation Club on February 8. Calling for "plain talk" by railroad spokesmen on the subject of competitive transportation, Mr. Brown said that degrading trucking service "violates the principles of good salesmanship" and places the speaker on unstable ground, since he is "taking shots at something which, in itself, is basically excellent."

"The product of the trucking industry is good," he continued. "The service presents assets you cannot find among railways. . . . We have all been convinced for a good many years that trucking service is good and is getting better. If it were not, we would both be without the service and the railroad industry would be minus one very substantial competitive headache.

"We cannot, and are not attacking the trucking industry. They are using facilities the public has offered them and are fighting for more. You cannot condemn these two purely American reactions, particularly when you have to admit that you would do exactly the same thing if you found yourself in the trucking industry.

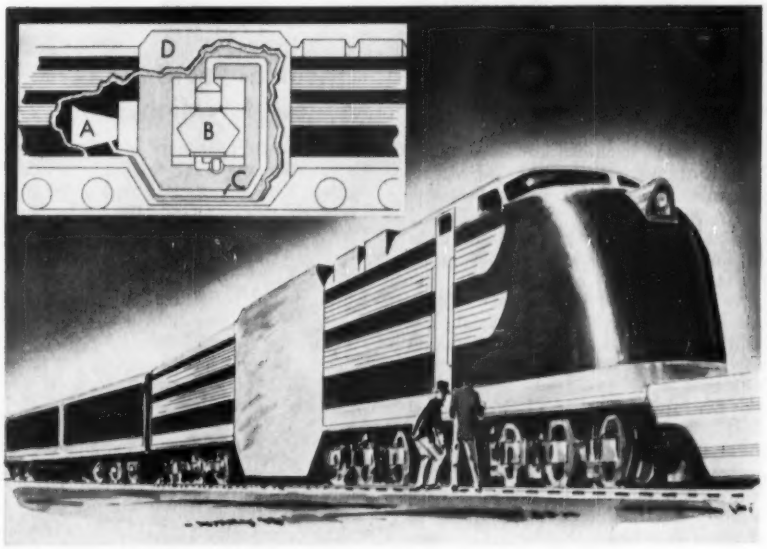
Rails Mistake — "If the railroad industry makes a mistake in its customer relations on the subject of rail versus truck transportation, it is in the railroad man's occasional failure to place himself in the position of the industrial traffic manager who accepts transportation and its economics as they are presented to him—not as the railroad industry thinks they should be presented to him."

Mr. Brown said many spokesmen for railroads have been accused of making "open, violent and unrestrained attack upon truckers for the competitive advantage they enjoy by virtue of public subsidy." That is only an illusion, he said, for the railroad industry is actually talking to the individual citizen who, in the long run, must make the decisions regarding the subsidy question.

The very fact that the railroad industry talks so long and vigorously "indicates that it feels the problem an unusually important one," he continued. "When it feels that it must continue to talk about the situation, you have an indication that all of us as individuals don't think the railroads have proved their point. . . ."

"It is our responsibility as citizens," Mr. Brown emphasized, "to study the facts the railroad industry presents. In all fairness we must then study with equal care the contentions of truckers.

"Certainly, there are enough people on both sides of the fence, and enough data, so you won't have to go looking for documentary material."



PROPOSED ATOMIC-POWERED LOCOMOTIVE would resemble conventional locomotives except for 200-ton block of steel in center, to contain nuclear reactor. Cutaway section shows Reactor (B) which heats water and sends steam through pipe (C) to turbine (A). Steel block (D) has four-foot-thick walls to protect crew from radiation.

Atomic Power for Locomotives?

Locomotive proposed by Utah physicist would have power of four diesel units—Fuel costs would be competitive

An atomic locomotive, design for which has been developed by a University of Utah nuclear physicist (*Railway Age*, February 15, page 3), would have the power of at least four diesel units and the pickup of an electric locomotive, according to a statement by the university. The atomic-locomotive project was supervised by Lyle J. Borst, professor of physics at the school.

"While a locomotive could be built to operate a year without refueling," Dr. Borst said, "the present design calls for addition of a pound of uranium every few months. Analysis of the cost of operating such a locomotive requires information on the price of uranium, which is now a secret. However, basing our estimates on published figures, the proposed locomotive will compete successfully with diesel power under favorable circumstances."

Small Reactor — Steam for the locomotive, the university's statement said, would be obtained from a small atomic reactor two feet wide, three feet high and three feet long, which "would produce as much steam as the largest steam locomotive." Electricity generated by a turbine would turn the wheels.

The locomotive would consist of two 80-foot sections. The first, having 24 wheels, would support the reactor. The second section would carry radiators equal to more than 1,000 automobile radiators, to get rid of reactor-produced heat. Weight of the proposed locomotive "would be comparable to that of present-day locomotives."

Pakistan Seeks Bids for Diesels, Track Materials

The government of Pakistan has invited bids for 19 5½-ft.-gage diesel locomotives and various track materials, according to Foreign Commerce Weekly. The locomotives are for the North Western Railway. A copy of the specifications may be borrowed from the Commercial Intelligence Division, U.S. Department of Commerce, Washington 25, D.C.

The track material, for the North Western and the Eastern Bengal, includes: 33,466 long tons of medium manganese-carbon steel flatfooted rail and 789 long tons of fish plates; 157 long tons of fish bolts and nuts; 816 long tons of round spikes; and 1,096 long tons of bearing plates. Tender documents and specifications may be purchased, at $30 a set, from the Embassy of Pakistan, Commercial Division, 2315 Massachusetts avenue, N.W., Washington.

Terminal, Road Expansion Goal Reopened by O.D.M.

Railroad terminal and road facilities have again qualified for accelerated amortization under the government's defense expansion program. Fast write-offs for such facilities have not been granted since last December (*Railway Age*, December 7, 1953, page 16).

The Office of Defense Mobilization suspended this program while trying to determine whether expansion since 1950 has been adequate. As a result of its study, O.D.M. found that additional expansion is needed. The "goal" for such expansion remains at $500,000,000.

FREIGHT CARS

The **Northern Pacific** has ordered 50 70-ton mechanically equipped refrigerator cars from the Pacific Car & Foundry Co., at an estimated cost of $23,012 each. Delivery is scheduled for the third quarter of 1954.

PASSENGER CARS

Cars and Power For New York Subways

Two hundred subway cars will be built by the American Car & Foundry Co. for the New York City Transit Authority. Propulsion equipment for 100 cars will be manufactured by the General Electric Company's Locomotive & Car Equipment department, Erie, Pa., and for 100 by the Westinghouse Electric Corporation, East Pittsburgh, Pa.

Designed for series-parallel operation and dynamic braking, the first propulsion units are scheduled for delivery to the car builder by July 1954. All are expected to be delivered before the end of the year.

Each propulsion unit consists of four 100-hp. traction motors with gear-drives, automatic control equipment, a motor-generator set, and control for battery charging.

A feature of the propulsion units places the entire control in one package for mounting under the car. Sliding covers on the package make for easy inspection and maintenance. The new cars will be operated in multiple-unit trains in subways of the Independent and BMT Divisions of the New York City Transit System.

In addition, General Electric will supply about $3.5 million of power conversion equipment. This will consist of 15- and 34 ½-kv. switchgear, power transformers, 3,000-kw. ignitron rectifiers, anode breakers,

d.c. feeder breakers, and necessary control equipment.

There will be four substations, three of which are two-unit stations and one a single-unit station. The three two-unit stations will be installed on the Flushing line and will be fed by 60-cycle power from the New York City Transit Authority's 74th Street power plant.

Bids for the 200 subway cars were reported in *Railway Age* July 13, 1953, page 121, and October 26, page 36.

The **Northern Pacific** has ordered one rail diesel car (RDC-3) from the Budd Company at an estimated base cost of $162,350. Delivery of the car, which probably will be used between Duluth, Minn., and Staples, is expected during the first quarter of 1955.

The **Southern Pacific** has ordered one rail diesel car (RDC-1) from the Budd Company at a cost expected to exceed $150,000. The car will go into service between Oakland, Cal., and Sacramento, beginning April 25.

SPECIAL

The **Northern Pacific** has ordered three business cars from the Pullman-Standard Car Manufacturing Company at an estimated cost of $330,000 each. Delivery is scheduled for next December.

Rates & Fares

I.C.C. Reports on Cases Involving Rules 34 and 10

The Interstate Commerce Commission has made reports in cases where Rules 34 and 10 of the Consolidated Freight Classification were in issue.

Rule 34 sets out graduated scales o minimum weights based on car lengths. Rule 10 is the mixing rule, governing rates and minimum weights on mixed carload shipments.

As to Rule 34, the commission found that, as applied to closed cars, it would not be improved by substituting a graduated scale of minimum weights based on the cubical capacity of cars; that, as applied to closed cars, exceeding 40 ft. 7 in. and not over 50 ft. 6 in. in length, it is unjust and unreasonable to the extent that it provides for carload minima exceeding 140 per cent of the basic minima provided for cars 40 ft. 7 in. or less in length; and that the present scale of minima applicable to open cars of extra length had not been shown to be unjust and unreasonable.

This report, by Division 2, came out of the commission's No. 30280 investigation of Rule 34. The inquiry was instituted on the commission's own motion more than four years ago—on October 9, 1949.

The Rule 10 case was a complaint (No. 30994) involving application of the rule with respect to shipments moving from, to, and within Mountain-Pacific territory. This report, by Division 3, found that the complainants were unduly prejudiced to the extent that the rule they assailed was less liberal than so-called Modified Rule 10 as to traffic moving within Mountain-Pacific territory and between that territory and Western Trunk-Line and Southwestern territories. Modified Rule 10 has been in effect in the latter two territories.

As to traffic moving between Mountain-Pacific territory and Official and Southern territories, the complainants were found unduly prejudiced to the extent that the assailed version was less liberal than so-called Streamlined Rule 10 which applies generally in the East and South.

Streamlined Rule 10, which the complainants sought for all their shipments, is more liberal than Modified Rule 10 because it permits the rating of commodities enfering a mixed carload on the basis of their carload rates and/or all-freight rates. Under Modified Rule 10, the carload rates only are available.

B&O Cuts Fares Between Cincinnati and Columbus

The Baltimore & Ohio has reduced by about one-third its round-trip coach fares between Cincinnati and Columbus and intervening points. The new tickets are good for 30 days, with the usual half-rate for children. The reduction, effective on an experimental basis through July 31, represents furtherance of an experiment begun last June 15 in conjunction with the New York Central, whereby round-trip coach fares were reduced about one-third between Cincinnati and Detroit (*Railway Age*, June 22, 1953, page 16). The resulting increased passenger traffic encouraged the B&O to extend the experiment to the Cincinnati-Columbus service, just as the NYC has extended the reduced fares to its Cincinnati-Cleveland territory (*Railway Age*, February 1, page 6).

Roads Seek I.C.C. Probe Of N.J. Commuter Fares

Four railroads with lines serving the New York City area have asked the I.C.C. to investigate intrastate commuter fares in New Jersey.

The Erie, Lehigh Valley, Pennsylvania and the New Jersey & New York told the commission that the New Jersey Board of Public Utility Commissioners has not permitted intrastate commuter fares to rise to the interstate level.

"Commuters residing in New Jersey and New York are required to pay the authorized interstate fares for travel involving the crossing of state lines, while . . . persons traveling between points within the state of New Jersey enjoy the lower fares," the roads advised the I.C.C.

Canadian Board Rejects Request for Higher Rates

The Canadian Board of Transport Commissioners has rejected a Canadian Pacific proposal that it be allowed a return of at least 6½ per cent on its net railroad investment as computed at the end of 1951 (approximately $1,146,000,000). Simultaneously, the board refused a railroad application for an immediate nine per cent increase in freight rates.

The board's unanimous decision noted that rate increases granted to railroads since the end of the war have "brought about a loss of traffic by railways to competing modes of transportation," and "the law of diminishing returns is now . . . beginning to assert itself."

The board also said that, unless adverse conditions affecting railroad business are improved, if Canadian railroads were to be maintained in a healthy operating condition, means other than general freight-rate increases would have to be found. The board said it did not consider the proposed 6½ per cent a fair return on the CPR investment. It added that the relationship of rail earnings to investment had elements over which the board had no control, among which are taxes, labor demands and policies and efficiency of management.

Philadelphia Gets Baltimore Ore-Rate Basis

The Interstate Commerce Commission has halted a threatened rate war with a finding that rates on import iron ore moving through Philadelphia to the Wheeling, Steubenville and Youngstown steel-producing areas may be on the same basis as rates through Baltimore. Heretofore, the Baltimore basis has been 20 cents per ton below the Philadelphia basis.

Meanwhile, the commission refused to approve extension of the Baltimore basis to New York and Boston. That drew a dissent from Commissioner Arpaia, who disagreed with the majority to the extent that it denied those ports "the right to share with Philadelphia and Baltimore" in the iron ore traffic at stake.

The stake is substantial, the annual import total having risen from about 2.5 million tons in 1941 to about 10 million tons in 1951 and 1952. Estimates referred to by the commission indicated that the volume will amount to about 20 million tons within a few years.

The Baltimore rates, which will now be extended to Philadelphia, are $2.61

(Continued on page 74)

Rail-Truck Interchange of L. C. L.?

Shippers favor free interchange on through routes and rates, according to nationwide poll by *Railway Freight Traffic*

By a vote of almost two to one, shippers polled recently by *Railway Age's* associated publication, *Railway Freight Traffic*, favored agreements between railroads and motor common carriers for free interchange of less-carload traffic on through routes and rates.

The magazine's coast-to-coast panel of industrial traffic managers and chamber of commerce traffic directors gave many reasons for backing the idea. Among those most repeated were that such interchange would:

- Cut costs for both types of carriers.
- Permit advantageous use of equipment.
- Tend to equalize rates, and so help business meet competition.
- Allow for a more efficient method of assembling freight.
- Permit shippers to profit by the inherent advantages of each carrier service.

Members of the minority, however, took a firm stand opposing the idea. They argued that:

- Such an undertaking would be impracticable from an operating point of view.
- Shipments would be given preference depending on their origination.
- Shipments would be slowed up.
- Tracing would be very difficult.
- Existing competition would perish —to the disadvantage of the shipper.
- Claim procedures would have to be completely revised.

Some voters refrained from casting a definite "yes" or "no" vote. Most of these felt that, until railroads and motor carriers begin actual exploration of the idea, they would prefer to withhold comment.

Box Cars, Hoppers Carried Two-Thirds of '52 Traffic

Waybill studies of the Interstate Commerce Commission's Bureau of Transport Economics and Statistics indicate that more than two-thirds of 1952's carload traffic moved in box cars and hopper cars.

The showing was summarized by the bureau in the latest "Monthly Comment," the data having come from Statement No. 5352 of the waybill study series.

For all carload traffic in 1952, 35.9 per cent of the cars moved were box cars, 32.1 per cent hoppers (open top and covered), 13.8 per cent gondolas, 6.1 per cent tank cars, 4.6 per cent refrigerator, and 7.5 per cent flat, stock and special cars combined.

By Commodities—The breakdown by commodity groups showed that Products of Agriculture and Manufactures and Miscellaneous accounted for about 80 per cent of box car loadings and that more Manufactures and Miscellaneous commodities than Products of Mines were carried in gondolas. Hopper cars were used almost exclusively for Products of Mines traffic. Over half the flat cars were used for Products of Forests traffic, while the remainder were used for Manufactures and Miscellaneous commodities.

Mileage data indicated that almost 90 per cent of 1952 traffic moved less than 1,000 miles and 65 per cent less than 400 miles. In the case of refrigerator cars, however, 54.3 per cent of the loads moved from 1,000 to over 3,000 miles.

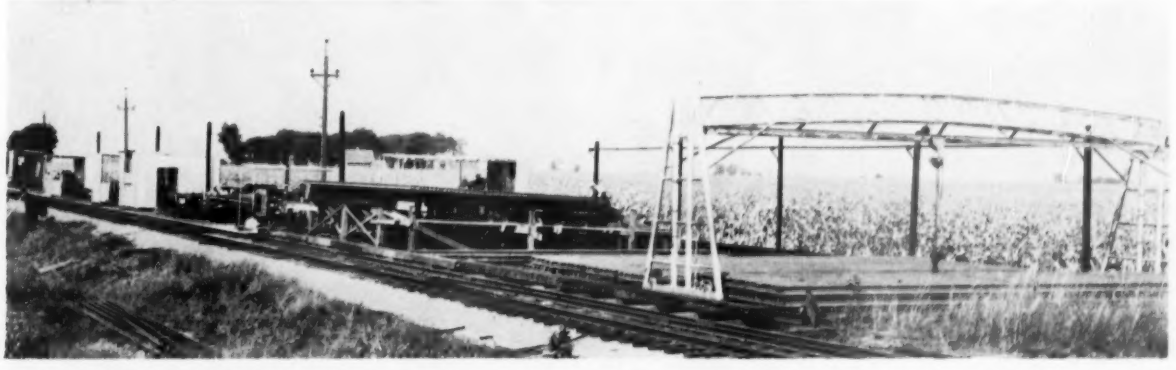
D&S and P&N to Be Fully Dieselized

The Durham & Southern and the Piedmont & Northern will be fully dieselized when nine diesel units ordered by the two companies late last year (*Railway Age*, January 11, page 192), are delivered next March and April. Three 1,200-hp. road-switchers ordered by the D&S from the Baldwin-Lima-Hamilton Corporation will replace steam locomotives, which are to be retired. D&S shops at Dunn, N.C., will be remodeled as maintenance facilities for the new motive power.

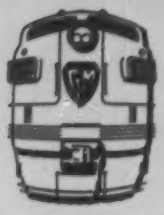
Six 1,000-hp. switchers ordered from the American Locomotive Company by the P&N, supplemented by two 1,600-hp. Alco road-switchers to be transferred from the road's South Carolina division, will be placed in service on the P&N's North Carolina division to replace the nine electric locomotives now operating on that division. Shop facilities at Pinoca, S.C., near Charlotte, are being remodeled and expanded to handle diesel maintenance.

Briefly . . .

. . . **The Canadian National's** 144-mi. line between Sherridon, Man., and Lynn Lake, recently opened to serve the Sherritt-Gordon mines at Lynn Lake, now carries passengers in mixed-train service.



THIS HOMEMADE GANTRY CRANE makes it possible for only one man to handle rails from the stockpile to the skids serving the Toledo, Peoria & Western's permanent plant installation for making continuous welded rails at LaHogue, Ill. Both the crane and the frames for the corrugated steel buildings are made from boiler flues. The crane is powered, and is controlled by push buttons. The TP&W has just finished laying 4.5 track-miles of 115-lb. continuous-welded rails that were produced at this plant. The rails were welded into strings 1,521 ft. long, which were loaded 12 to a trainload and laid at Piper City, Ill.



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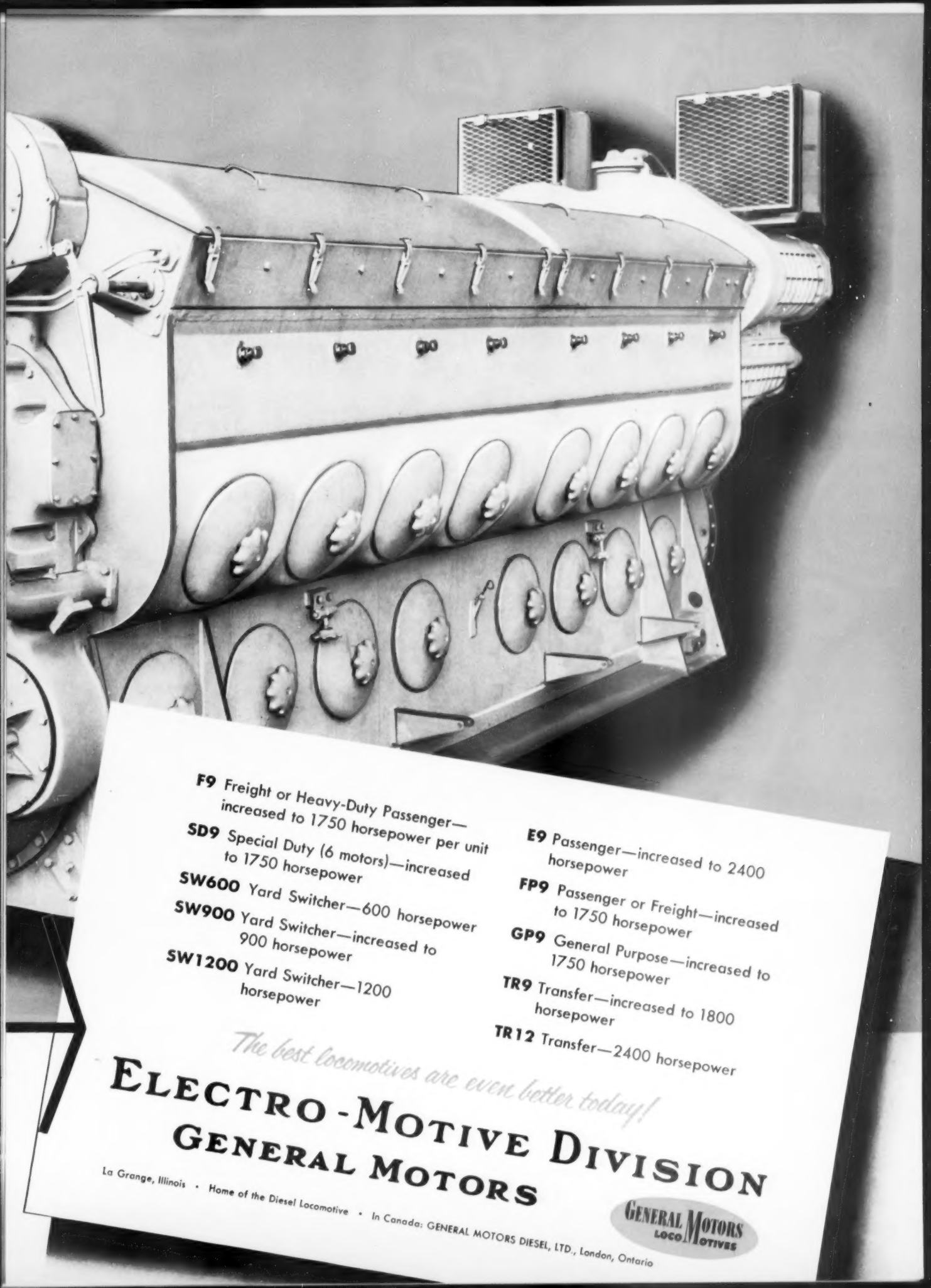
in General Motors Locomotives?

—and that's only one of the many extra values you get in the new line of General Motors Locomotives:



F9 Freight or Heavy-Duty Passenger—increased to 1750 horsepower per unit

SD9 Special Duty (6 motors)—increased to 1750 horsepower

SW600 Yard Switcher—600 horsepower

SW900 Yard Switcher—increased to 900 horsepower

SW1200 Yard Switcher—1200 horsepower

E9 Passenger—increased to 2400 horsepower

FP9 Passenger or Freight—increased to 1750 horsepower

GP9 General Purpose—increased to 1750 horsepower

TR9 Transfer—increased to 1800 horsepower

TR12 Transfer—2400 horsepower

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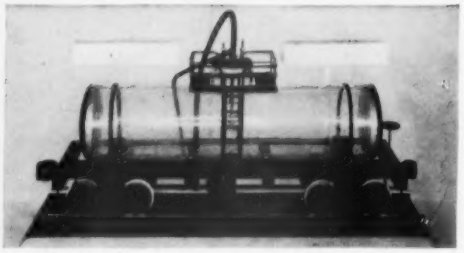
GENERAL MOTORS LOCOMOTIVES

NEW OAKITE FOGGING UNIT slashes hours off tank car cleaning time



Model Tank Car

Transparent body of this model tank car gives you a pretty good idea of how the Oakite Fogging Unit operates. Here it is shown, in position, reaching every inch of soiled surface with a detergent-saturated steam fog. Soils quickly loosen, oils melt. Grime slides to tank car bottom for easy drain off.

Railroad men tell us—this new OAKITE FOGGING UNIT has manual cleaning of tank car interiors "beat a mile". They say it saves money. It should—it's a *mechanical* method. Does away with costly hand scraping and wiping. Speeds tank car turnaround. Removes moderate soils and oils in a fraction of the time required by old fashioned "muscle" methods. Unit is simple to install and maintain. It's light and easy to handle, and it's economical to operate.

The OAKITE FOGGING UNIT consists of two opposing spray nozzles mounted at the business end of a 4½ foot twin tube assembly. It is inserted into tank car through dome. Its 18 inch diameter dome plate is secured by clamps. Steam and suitable Oakite Cleaner are fed to nozzles. With steam and solution valves open and car drains closed, nozzles "let go" with a detergent-saturated steam fog. This fog blankets every inch of soiled surface. Soils lose their grip, oils melt and residues slide to tank car bottom. High pressure rinse with Unit completes the job.

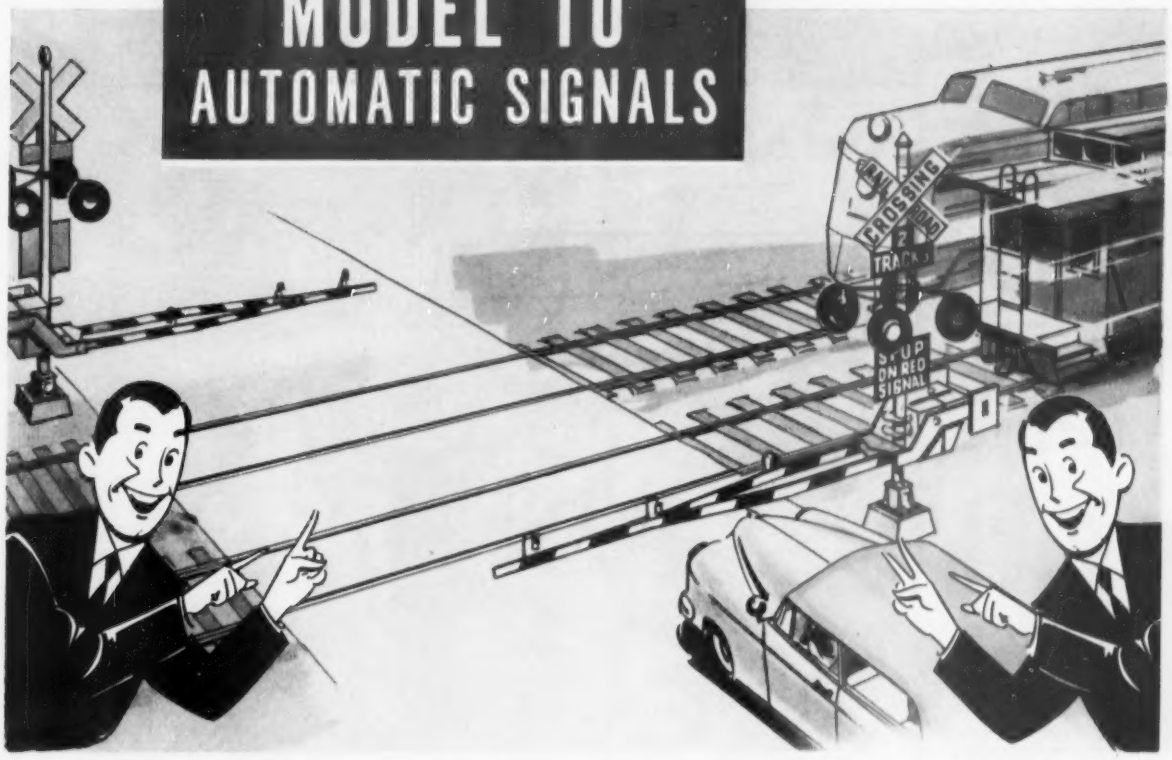
The OAKITE FOGGING UNIT may be rented at a nominal fee to users of Oakite Cleaning Compounds. For particulars drop a line to Oakite Products, Inc., 46 Rector St., New York 6, N. Y.

OAKITE PRODUCTS, INC., 46 Rector Street, NEW YORK 6, N. Y.
In Canada: Oakite Products of Canada, Ltd. 65 Front St. East, Toronto, Ont.

OAKITE

RAILWAY DIVISION

MODEL 10
AUTOMATIC SIGNALS



First choice to prevent "second train" accidents

on a hundred railroads

Not *all* grade crossing accidents are caused by carelessness. Many a "careful" motorist has waited to let a train clear a crossing, only to pull onto the tracks, directly into the path of an onrushing *hidden* second train.

But it doesn't happen where Model 10 Automatic Signals are on the job. It doesn't happen, because the gate arm *remains* down, and lights flash, until *all* trains have cleared the intersection.

The elimination of the "second train" hazard is, of course, only one reason why Model 10's are top rated by a hundred railroads. Model 10 Signals stop all types of grade crossing accidents, arising from a dozen causes.

The performance record of Model 10 Signals at thousands of busy crossings speaks for itself: *Not a single accident has ever occurred as a result of operation failure on the part of Model 10's.*

Model 10 Signals offer important advantages dollarwise, too. Find out *all* about Model 10 safety and economy. Write for "Grade Crossing Safety is Your Business." Do it today. Just ask for Brochure No. 748-RA-354.

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We have No Stops on this Line **By Hungerford**

The idea for this cartoon, drawn by Mr. Hungerford, won a prize for

Mr. W. R. RODGERS

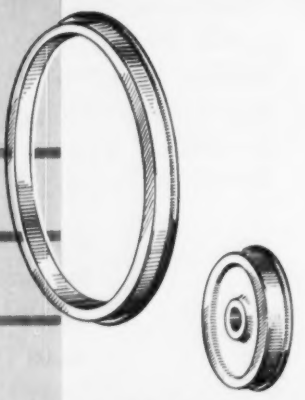
in the Edgewater Cartoon Idea Contest, held during the R.S.M.A. Convention at Atlantic City in June 1953.

We will be glad to send you enlarged copies of this Hungerford cartoon (without advertising copy) for posting on your office and shop bulletin boards, or a cut for your company magazine, at cost.

E

PITTSBURGH, PENNA.

EDGEWATER STEEL COMPANY



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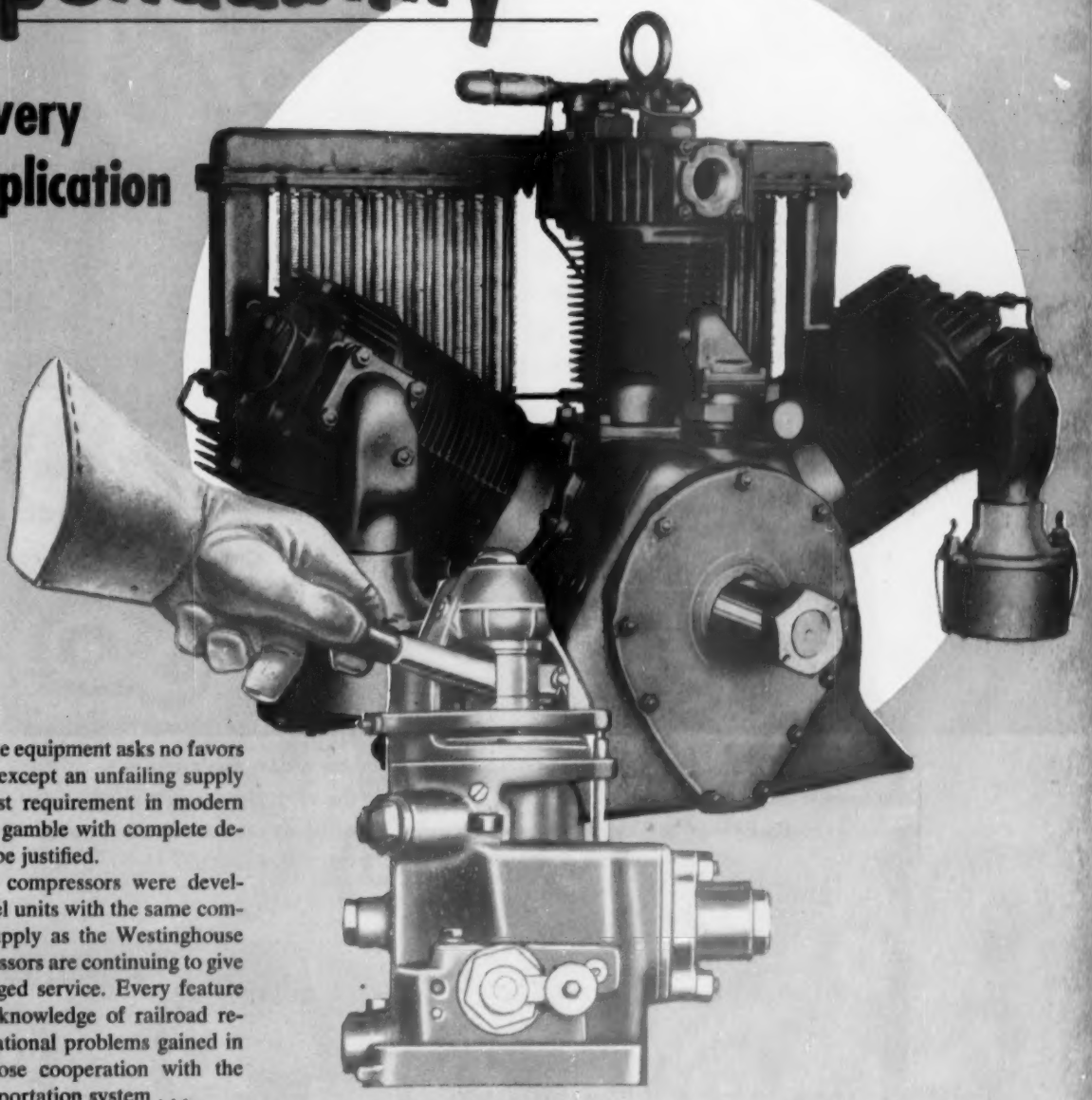
put dependability

behind every brake application



Westinghouse Brake equipment asks no favors on any assignment—except an unfailing supply of air. That's the first requirement in modern train control, and no gamble with complete dependability can ever be justified.

Westinghouse CD compressors were developed to provide Diesel units with the same completely reliable air supply as the Westinghouse Steam Driven compressors are continuing to give through years of rugged service. Every feature reflects the intimate knowledge of railroad requirements and operational problems gained in over 80 years of close cooperation with the nation's leading transportation system . . .

1. Radiator-type intercooler between high pressure and low pressure cylinders reduces temperature of discharge air and increases efficiency.
2. Full-pressure type lubrication system maintains even, constant flow of filtered oil to connecting rod crankshaft bearings and wrist-pin bearings.
3. Throw-off of oil from connecting rod bearings lubricates cylinder wall and also main crankshaft ball bearings. Oil pressure relief valve "meters" oil in accordance with compressor speed.

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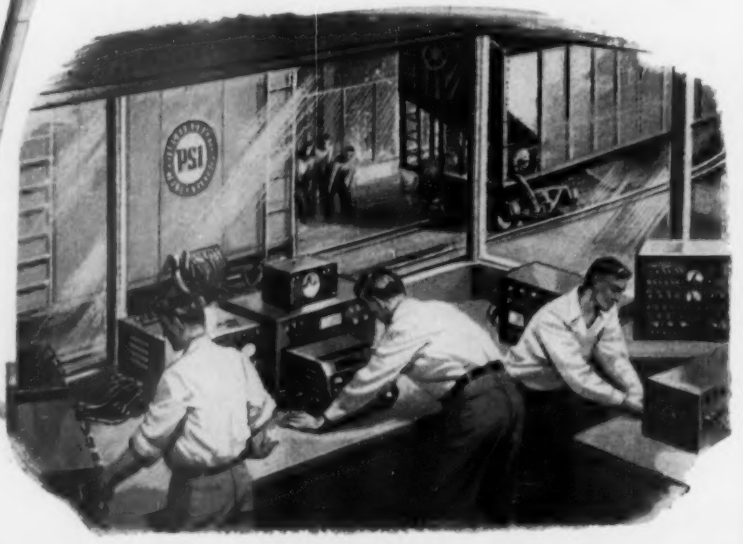
GETTING THE GOODS ON A CAR KILLER

Operation impact! A planned collision to see how the standardized PS-1 takes it. The all-welded hopper ca is fully loaded as it comes down the ramp to smash int the PS-1. Speeds as high as 18 mph. can be obtained in order to get the data that makes the PS-1 a better and better box car.

RECORDING THE EVIDENCE

At the scene of the test, Research & Development engineers using the latest electronic equipment, record the information from the impact. The stresses and strains are measured precisely and the the facts are used in the design and construction of the PS-1. Tests such as this make the improvement of the PS-1 continuous.



Science builds a better box car

RESEARCH AND DEVELOPMENT TESTS ARE THE *FIRST* PROOF THAT EVERY PS-1 CAN TAKE IT

Pullman-Standard Research and Development engineers have never stopped testing, proving and *improving* the standardized PS-1 box car. They have continued to anticipate the railroads' needs nation-wide for better box cars. That's why 56 railroads have already ordered 50,000 PS-1s. That's why these standardized PS-1 box cars are setting economical, day-after-day operating records.

Under laboratory control, Research and Development experts reproduce jolting service conditions—often more rigorous than cars would ever encounter. Such shock treatments and other tests are only part of the story of car building to meet the needs of American railroads from coast to coast. Pullman-Standard Sales and Service engineers also are following through continually with "on line" investigations of their own toward an improvement of PS-1 specifications.

All this is the Pullman-Standard way of building a quality box car that *stays in service longer* and assures railroads of time for *more revenue-producing shipments.* Still, the cost is lower than cars built to individual specifications. Ask for fast delivery schedules on the PS-1 standardized box car.

YOUR NEEDS CREATE THE PULLMAN ***"STANDARD"***

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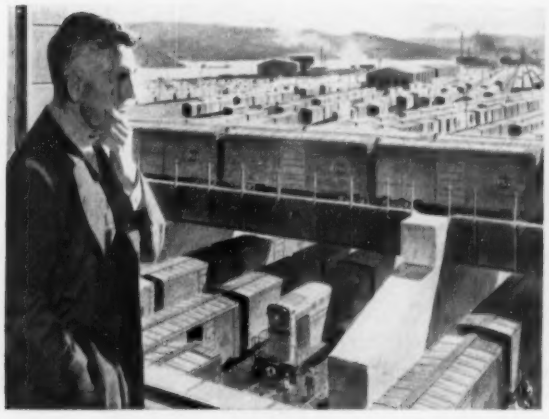

THE PROOF IS IN YOUR OWN YARD

Look at any freight consist and count the number of PS-1s. Here is proof that the standardized box car is the best answer to the rising costs of today's freight operations. The sturdy PS-1 is being bought and reordered by a majority of the country's leading railroads—proof that quality as well as quantity lead to the selection of a box car designed for long service life.

SALES AND SERVICE ENGINEERING

Pullman-Standard Sales & Service engineers travel well over 100,000 miles a year for facts on box car operating conditions. Above: data on truck wheel loadings were used by our Research and Development engineers to develop PS-1 floors that stand up under heavier materials handling equipment carrying heavier loads. All components are thus engineered for dependability.

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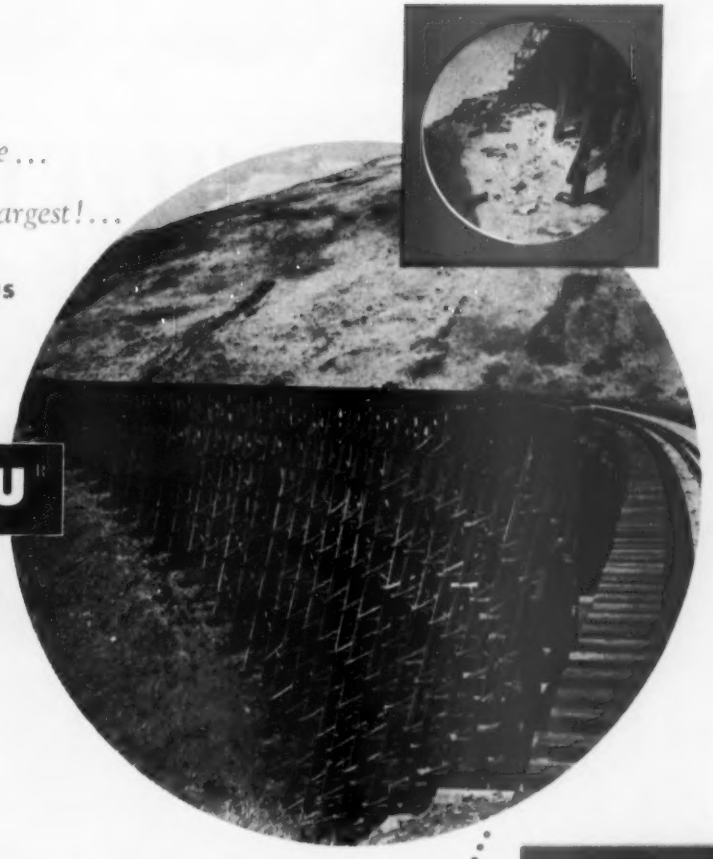

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Weeds and grasses can't grow on ground that has been properly treated with Borascu! It destroys weeds and it stops them—that's one reason more roads use Borascu than any other weed-killer for protecting timber structures from disastrous grass and brush fires. Economy, ease of application, safety, and long-lasting results are other deciding factors for this popularity of Borascu over all others. A free demonstration of Borascu on your road, under all conditions, is yours for the asking. Write for details today!

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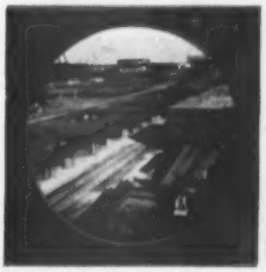
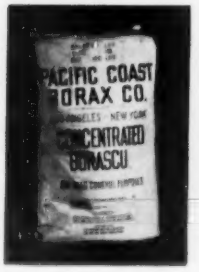


MAKES YARDS—SIDINGS SAFER



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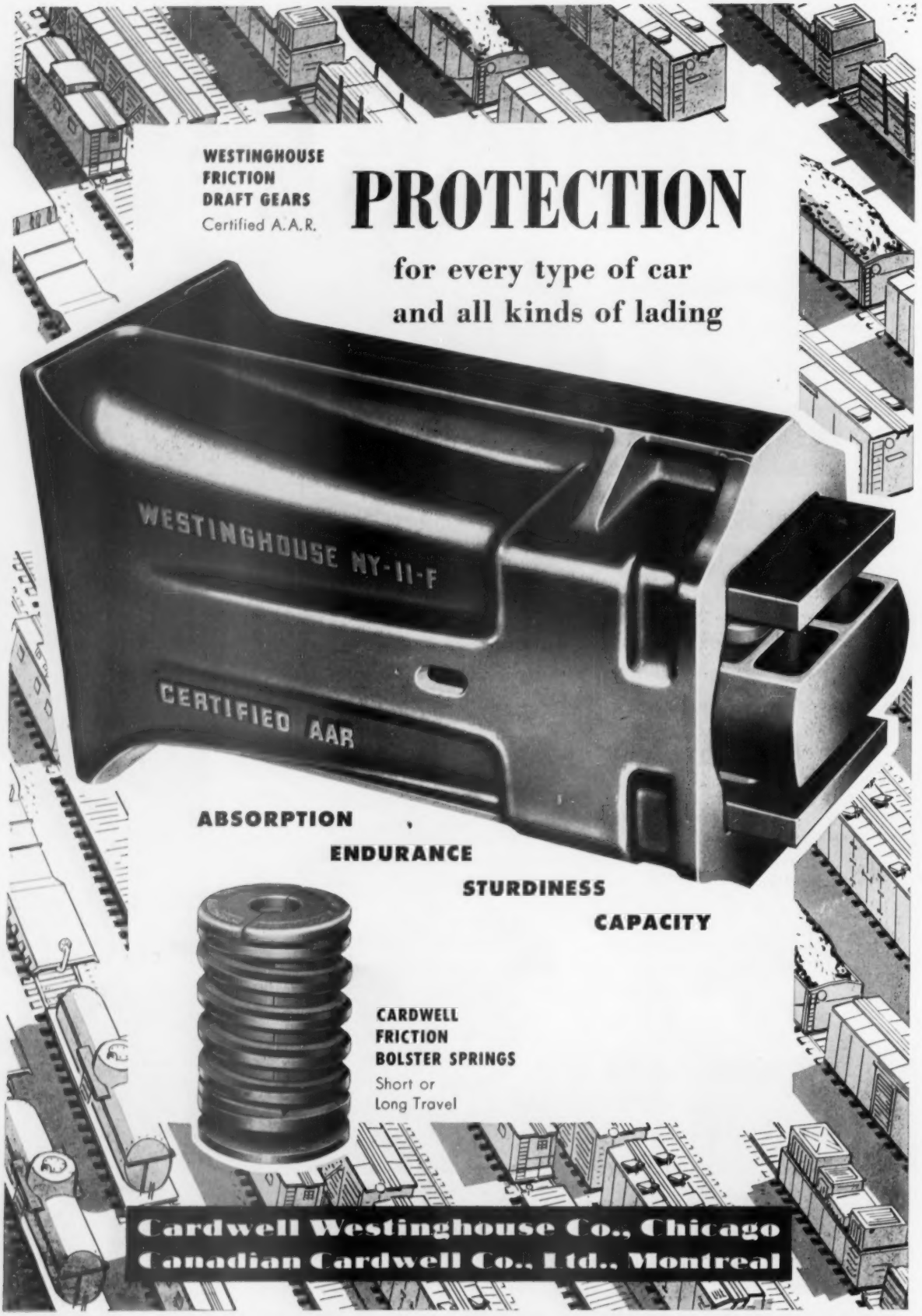
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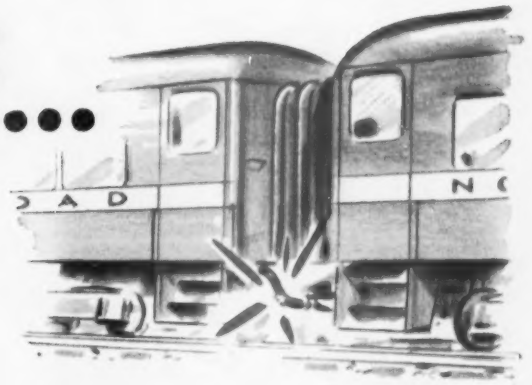

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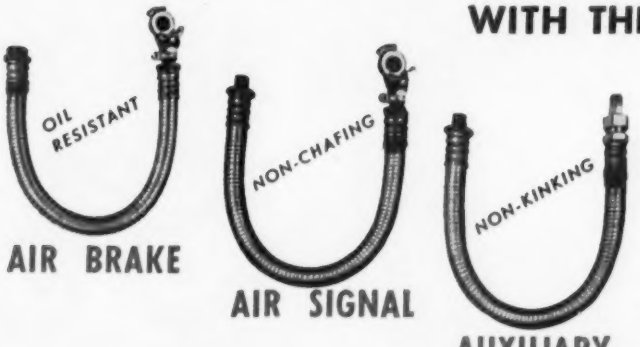
WITH THE RED INSPECTION STRIPE



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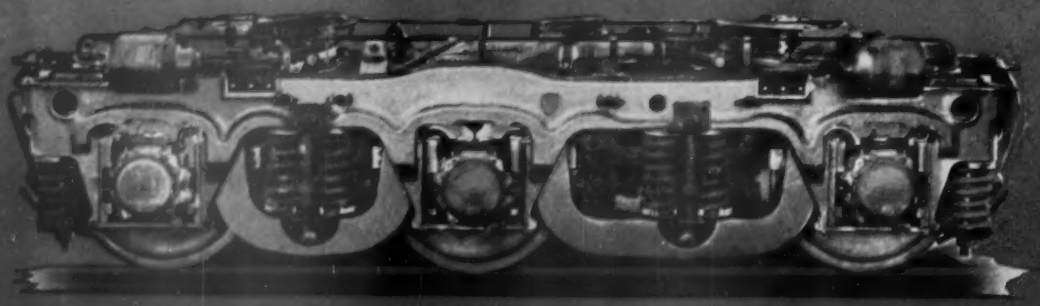

Commonwealth 6-Wheel 3-Motor Truck for 2400 H.P. Fairbanks-Morse Train Master Locomotives.

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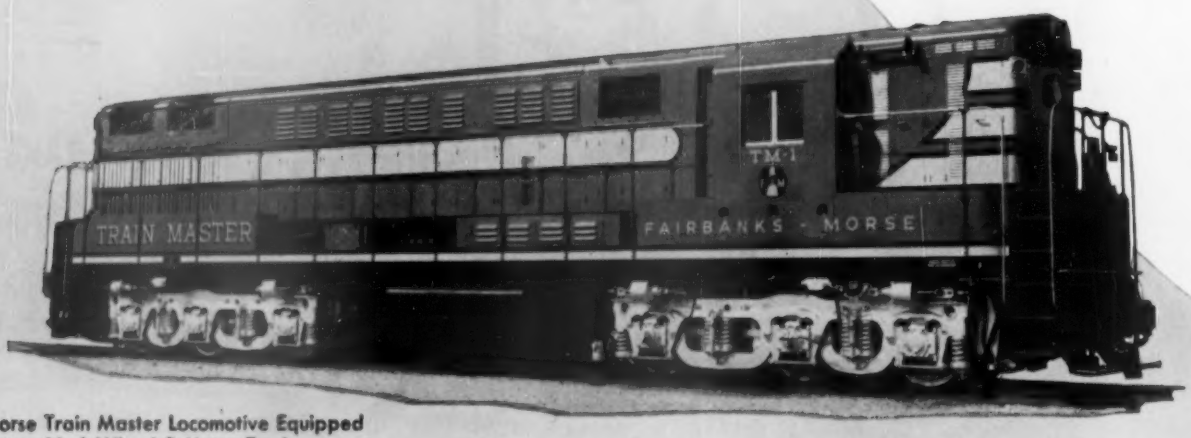
One-Piece Cast Steel 6-Wheel Motor Truck Frame.



Fairbanks-Morse Train Master Locomotive Equipped with Commonwealth 6-Wheel 3-Motor Trucks.

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# of One-Piece Cast Steel Truck Frames Assures Maintenance-Free Performance for COMMONWEALTH Diesel Motor Trucks

COMMONWEALTH Motor Trucks provide exceptionally dependable performance, most economical operation, and easy riding at all times. The well-designed rugged steel castings assure maintenance-free life and increased locomotive availability.

Train Master locomotives have COMMONWEALTH 6-wheel 3-motor trucks arranged with equalizers for positive equalization and all-coil springing with snubber control. This design of truck provides maximum accessibility to all motors.

Over many years, thousands of Diesel locomotives of every type have been built with COMMONWEALTH Motor Trucks.

CASTINGS

GRANITE CITY, ILLINOIS
EDDYSTONE, PA.

Simple, Inexpensive Modification of E.M.D. Cooling Systems

with

GUN IRON

CONVERSION LINERS

Once again Hunt-Spiller combines the advantages of long-wearing Gun Iron with a design advancement in diesel locomotive parts . . . this time in a "package" unit of newly-designed cylinder liners complete with water manifold and connections.

Here is a simple modification of the E.M.D. cooling system which can be handled in railroad shops with minimum expense. The liners themselves offer design features which substantially reduce both operating and maintenance costs.

As can be noted in the cut-away illustration at the right, there is no possibility of lower water seal leaks with resulting pollution of lubricating oil. Running repair time to replace the usual lower seals is eliminated, and cylinder heads can be removed when necessary without disturbing any lower sealing assembly The large diameter manifold insures equal water flow at all cylinder liners. Flexible Dresser couplings with armored gaskets are used.

These Gun Iron conversion liners have been thoroughly tested and are now being used by leading railroads. We'll be glad to supply you with full details

These two books tell the story of Hunt-Spiller's products and facilities. Write for your copies today . . . no obligation, of course.

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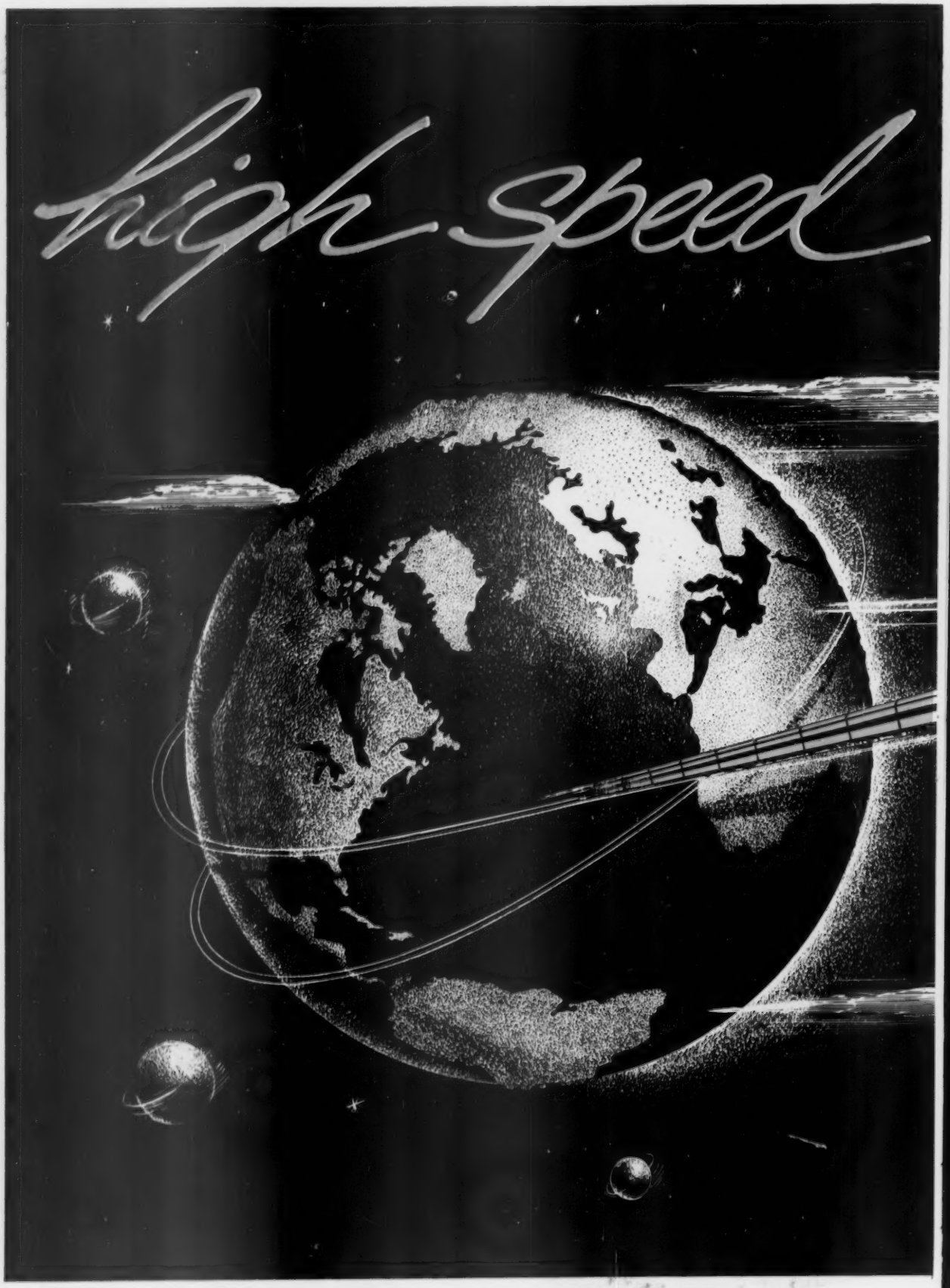
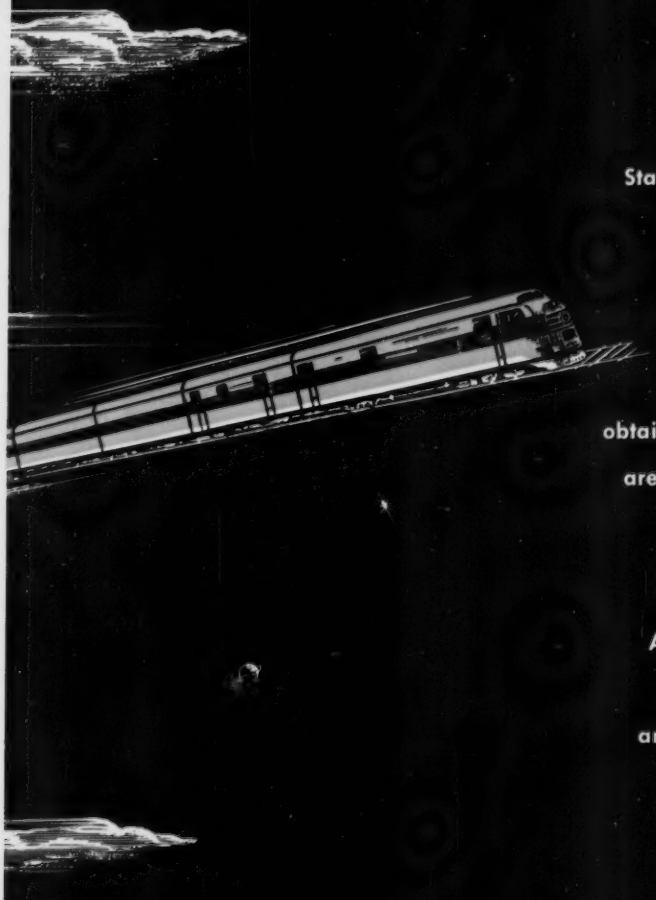

high speed

FOR 44,700 MILES



Standard Diamond "S" brake shoes averaged 44,700 miles of service on the high speed Denver Zephyr operated by the Chicago, Burlington & Quincy Railroad.

Equally economical performances can be obtained on railroads where metal brake shoes are used with well-maintained brake rigging.

Continuous research and progressive manufacturing methods enable the American Brake Shoe Company to produce brake shoes with longer life and more dependable braking performance.

AMERICAN Brake Shoe COMPANY

BRAKE SHOE AND CASTINGS DIVISION

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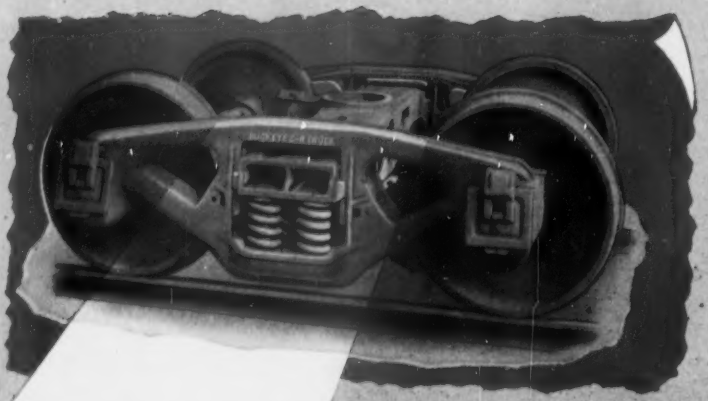
BUCKEYE C-R®

THE TRUCK WHICH PROVIDES A "CUSHION" BETWEEN LADING AND ROAD BED



THE BUCKEYE C-R (CUSHION-RIDE) TRUCK OFFERS A UNIQUE COMBINATION OF THE BEST IN TIME PROVEN FEATURES AND MODERN DEVELOPMENTS.

- Integral box side frames with Buckeye inverted U-Section tension members.
- Flanged type (basket) spring seat illustrated. Conventional type can be furnished if desired.
- Full box section bolster ends protected by hardened steel wear plates.
- Best possible vertical, lateral and alignment control provided by simple, durable and effective control parts.
- Symmetrical friction wedges of hardened cast steel with full width, long wearing bearing surfaces.
- Low rate friction wedge springs for uniform action over long service life.
- Easy visual inspection of control parts.
- Easy to assemble and to dismantle.
- Superior riding qualities and long maintenance-free service life.

THE BUCKEYE STEEL CASTINGS COMPANY

New York, N. Y. Columbus, Ohio Chicago, Ill.

One-man beauty treatment

. . . FROM GRIME TO SHINE IN 90 SECONDS!

From locomotive to dome-type cars . . . just one "beauty operator" and a Whiting Train Washer sends an entire train on its way in minutes . . . clean and bright. Cars may pass through a Whiting Washer at the rate of 90 feet per minute . . . an ordinarily hard-to-clean dome-type car in as little as 90 seconds!

From his station, the operator easily controls the entire cleaning operation . . . solution spraying, brushing, final washing and rinsing. Spongy-soft, long-life brushes remove grime without injury to car finish. Sturdy brush holders, held automatically against the car sides, have an exclusive self-aligning mechanism to compensate for car tilt. Sectional brush design makes possible various arrangements to handle special shapes, such as indented windows. *To save washing time—cut washing cost,* consult Whiting!

A complete brush unit with individual water spray. Can be used in a variety of standard combinations.

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TRANSPORTATION EQUIPMENT

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Simmons-Boardman Publications
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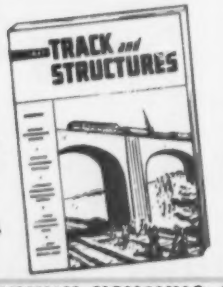
RAILWAY LOCOMOTIVES AND CARS

Est. 1832

Published monthly, *R.L.&C.* is the specialized publication of railway mechanical and electrical officers and supervisors. Technical and practical in its editorial viewpoint, *R.L.&C.* keeps the reader abreast of developments, new practices and products that have to do with the design, construction, efficient operation and repair of locomotives, freight and passenger cars and the equipment and operation of shops. Its series "Diesel Electrics—how to keep them rolling," its freight and passenger car articles and shop articles are typical features.

RAILWAY TRACK AND STRUCTURES



Est. 1884

R.T.&S. is the specialized publication edited exclusively for railway engineering and maintenance officers and staffs who are responsible for the construction, upkeep and repair of railway fixed properties. *R.T.&S* keeps its readers abreast of new methods, equipment and materials that apply specifically to their branch of railroading. "How to" information on efficient methods of work, organization of personnel, and use of equipment and materials helps the reader to answer questions he faces in the office and out on the line

RAILWAY SIGNALING AND COMMUNICATIONS

Est. 1908

R.S.&C. enables signaling and communications men to keep in touch with developments in automatic block signaling, automatic interlockings, centralized traffic control, car retarders, telephone and telegraph, yard, wayside and train communications. *R.S.&C.* is the central medium for the interchange of ideas and information covering new installations, latest practices, new products, news of personnel, and developments in the A.A.R. Signal Section and A.A.R. Communications Section. It's the only business paper which concentrates *exclusively* on this field.

RAILWAY SUPPLY INDUSTRY YEARBOOK

1954 Edition in Preparation

Comprehensive roster, catalog and directory of the whole railway supply industry, including key personnel, products, services and trade names. Copies available in every important railway office for use of those who select, specify and purchase railway products for every branch of railroading. Four main sections include "Who's Who" in the railway supply industry; Suppliers' Catalog Section; Directory of Products; Trade Names of the railway supply industry. Closing date, 1954 edition, March 1, 1954.

CAR BUILDERS' CYCLOPEDIA

New 19th edition, the standard reference work on all types of freight and passenger cars—their design, construction, parts, maintenance and repair. In 19 main sections, 1,200 pages and 3,000 illustrations, new edition provides descriptive text, photographs, diagrams and product catalog data covering the whole railway car field. Has dictionary of terms. Single copies $12.00.

9 Simmons-Boardman Railway Publications

Railway Age (Weekly), Railway Freight Traffic (Monthly); Railway Locomotives and Cars (Monthly); Railway Track and Structures (Monthly); Railway Signaling and Communications (Monthly); Railway Supply Industry Yearbook (1954); Car Builders Cyclopedia (1953); Locomotive Cyclopedia; Ry. Engineering & Maint. Cyclopedia.

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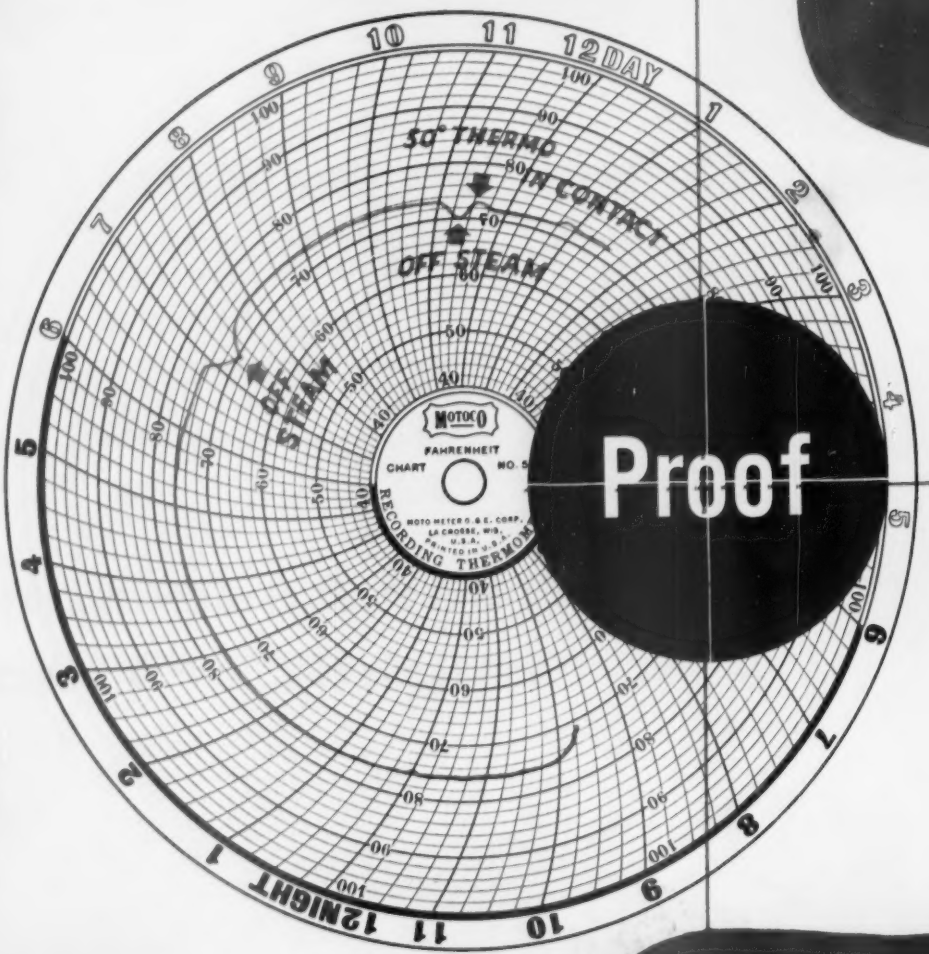

Proof

This recording-thermometer chart tells a typical story of uniform Unizone temperature in a modernized coach in service. On a 15-hour trip last December, during which outside temperatures varied from 36° to 45°, inside temperature was held virtually constant, except for the "off steam" periods. (Mild heating weather offers the greatest challenge to accurate thermostat control.)

The Vapor **Unizone** Car Heating System does a beautiful job!

With its single thermostat, its single regulator, *and no other moving parts whatever*, Unizone maintains car-comfort heat within 2° variation, regardless of the weather.

Not only is Unizone the simplest car-heating system ever developed, it is also the most practical and economical. Just 15 minutes, *every two years*, is the average for at-the-car servicing.

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Current Publications

PERIODICAL ARTICLES

WHO'S THE BOSS OF CHESSIE NOW?. Business Week, January 30, 1954, pp. 90-94. McGraw-Hill Publishing Company, 330 W. 42nd st., New York 36. Limited supply of tear-sheets available free.

Discusses Robert R. Young's resignation from the C&O board and developments on that road during his tenure of office.

•

HERE COMES BOB YOUNG. Life, February 8, 1954, pp. 23-27. Time, Inc., 9 Rockefeller Plaza, New York 20.

Covers the resignation of Robert R. Young from the board of directors of the C&O and presents a brief biography of Mr. Young along with a discussion of the probable future actions of both Mr. Young and the board of directors of the New York Central in view of Mr. Young's request that he be named chairman of the NYC board of directors.

BOOKS

LOCOMOTIVES AND TRAINS OF KANSAS CITY SOUTHERN-LOUISIANA & ARKANSAS RAILWAYS, by A. E. Brown. 68 pages, illustrations. A. E. Brown, 904 Dennis st., Leesville, La. $4.95.

The title of this book just about defines its contents. The pages are 8 inches by 11 inches, printed in brown ink, and they open lengthwise. The main portion of the book, comprising 60 pages, is devoted to an introduction and large illustrations of locomotives and trains, placed lengthwise on the page. Each illustration is appropriately captioned and at the end there is a seven-page summary giving the locomotive roster and technical information on all locomotives operating on both railroads since the 1930's. The author has compiled a valuable historical record of steam motive power that ran in his locality and which now has passed from the scene. The book will probably be of interest to railroad men and others desiring to preserve this phase of the railroad industry for purposes of historical reference.

•

RAILROADS IN DEFENSE AND WAR; A BIBLIOGRAPHY, compiled by Helen R. Richardson. 262 pages. Bureau of Railway Economics Library, Association of American Railroads, Transportation bldg., Washington 6, D.C. Free.

In view of the public interest and concern in matters vital to defense, the library of the Bureau of Railway

(Continued on page 44)

ON Cap Screws

Locomotive builders and railroad maintenance men know that modern "iron horses" are only as good as the fasteners that hold them together. That's why the "bolts" of yesterday have been replaced by modern, super-tough Lamson "1020" heat-treated Cap Screws. They're the fasteners that can handle the toughest holding jobs.

So remember this when you order Cap Screws. And remember, too, that Lamson "1020" heat-treated Cap Screws are the equal of original equipment *in every respect.* Lamson "1035", with 150,000 p.s.i. minimum tensile strength, offer you EXTRA holding power where required. They are the *ultimate* in high quality Cap Screws.

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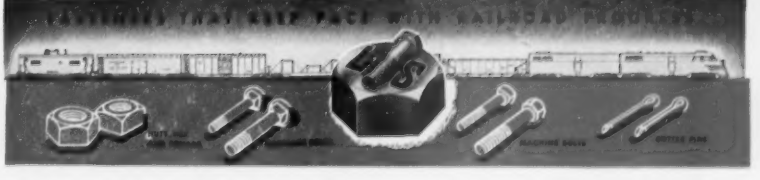
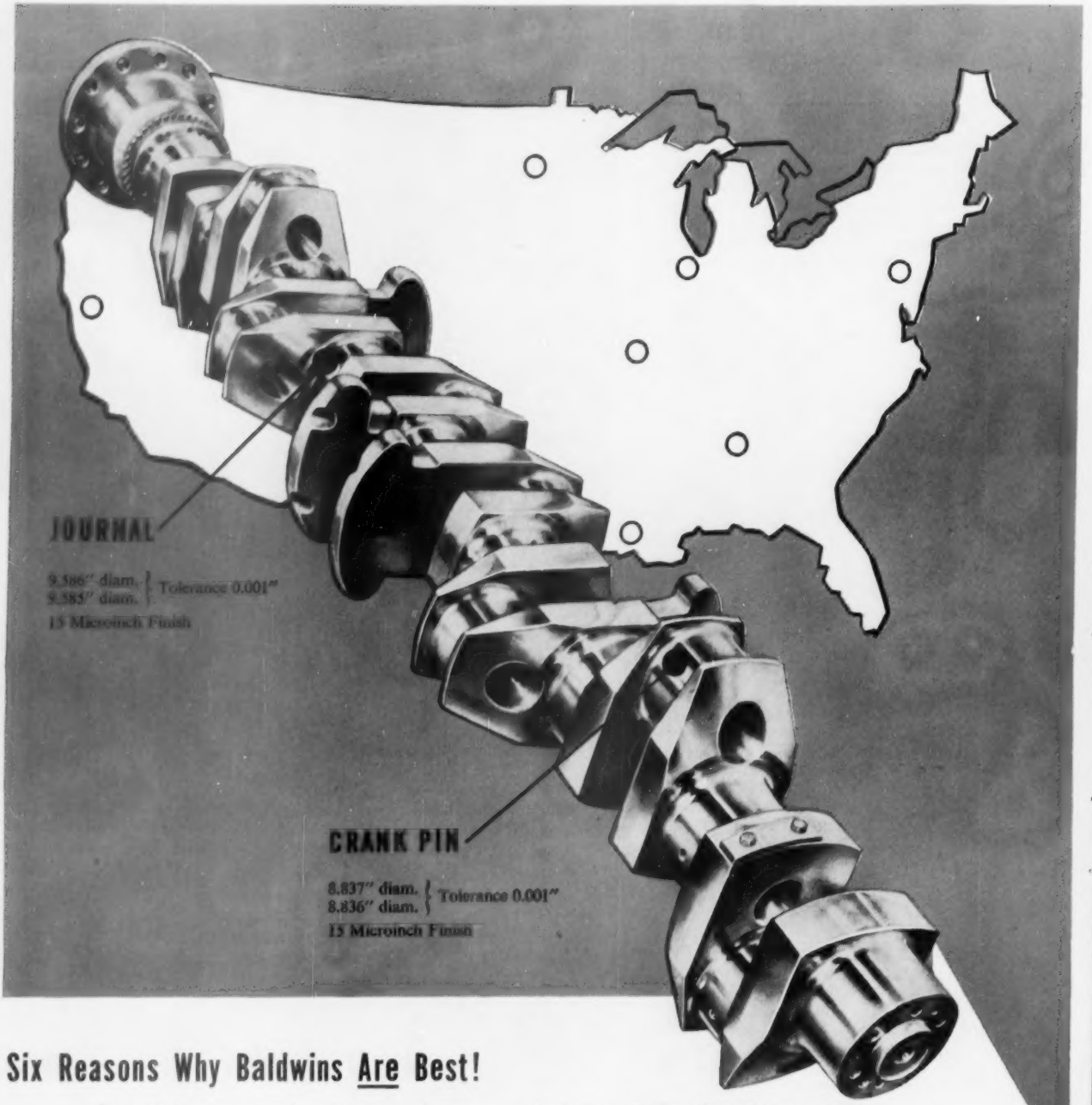




Six Reasons Why Baldwins Are Best!

1. Baldwins give as much as 8% more miles per gallon of fuel.
2. They consume up to 33⅓% less lube oil.
3. 5 to 15% fewer diesel engine and electrical parts decrease wear, replacements and maintenance costs, and increase availability.
4. The Baldwin-Westinghouse system of dynamic braking has braking capacity which exceeds that in the majority of today's locomotives—in some cases by as much as 50%—meaning less wheel and brake shoe wear, better control.
5. They have the weight and controls that can increase hauling capacity up to 3 additional freight cars in the tough assignments.
6. Standardizing on Baldwin-Westinghouse renewal parts ensures finer quality and service for trouble-free performance and peak availability.

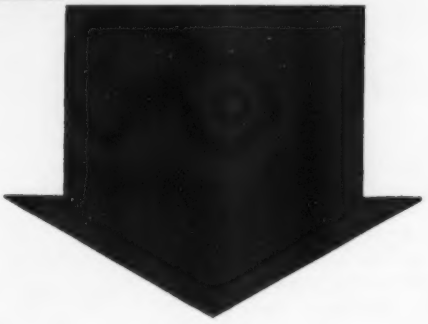
For finest quality and service

USE GENUINE BALDWIN-WESTINGHOUSE RENEWAL PARTS . . .

You can be sure of interchangeability, finer performance and longer, trouble-free service life by standardizing on genuine Baldwin-Westinghouse parts for your Baldwins.

They are machined with precision and fabricated from the materials best suited for the job, reducing service interruptions and frequency of replacements.

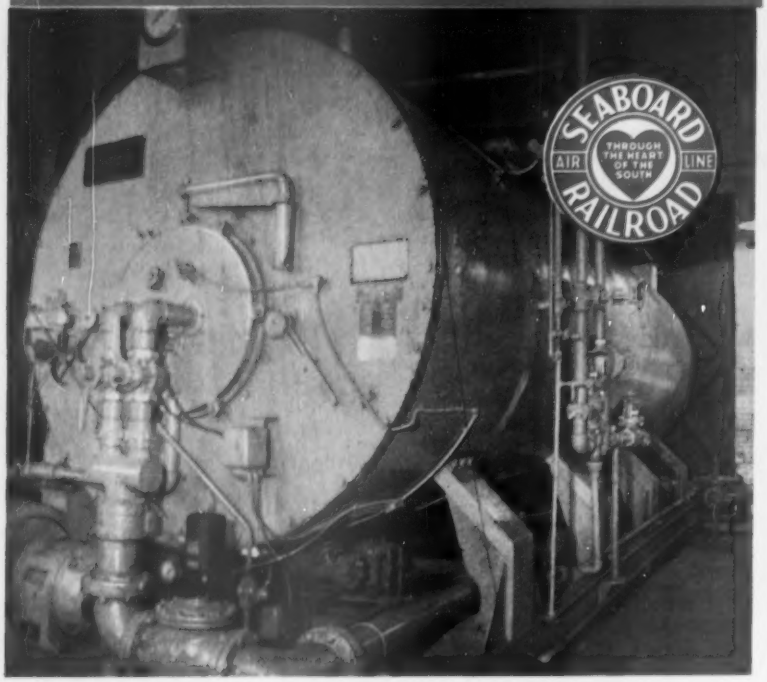
Baldwin's seven strategically located warehouses assure you prompt service to maintain peak availability and permit you to invest less in stocks of diesel parts.



BALDWIN-Westinghouse

DIESEL-ELECTRIC LOCOMOTIVES

AMESTEAM ... On The Seaboard



You're Looking at ECONOMY in Boiler Operation . . . at a 600 hp. Clip!

Above is shown one of two 600 hp. AMESTEAM Generators at the Hermitage Diesel Shops of the Seaboard Air Line Railroad at Richmond, Va. These compact, highly efficient boilers are providing substantial savings. *Completely automatic* —they insure a steady flow of heat and process steam at this important Seaboard facility. Other AMESTEAM Generators are located at five other points on the Seaboard system.

Many of the nation's foremost roads are AMESTEAM users. These modern package boilers banish boiler room labor and are guaranteed producers of better than 80% thermal efficiency. "The Railroad Boiler" is available in single units from 10 to 600 hp. Design pressure—15 to 200 lbs. Higher pressures on special order. *Phone, write or wire.*

"The Railroad Boiler"

Exclusive Distributors to the Railroads
Engineering, Sales and Service
RAILROAD SUPPLY and EQUIPMENT Inc.
148 ADAMS AVE., SCRANTON 3, PA.
Phone Scranton 2-4279

(Continued from page 41)

Economics has issued this bibliography of published works, manuscripts, periodical articles, and government documents dealing with railroads in defense and war. The period covered is from 1828 through 1953; the range is international.

Part I, containing references to books, reports, etc., is divided into Section A, United States, and Section B, other countries. Part II, containing references to material in proceedings of associations, railroad clubs, traffic clubs, transportation clubs, and shippers' advisory boards, and in periodicals, is divided similarly. Publications of the U.S. Railroad Administration, 1917-1920, are not included, as a bibliography of this material was published by the bureau in 1952. Publications of various defense and government agencies are listed in an appendix.

•

STEEL STRUCTURES PAINTING MANUAL, 2 volumes. Volume 1, GOOD PAINTING PRACTICE. Edited by Dr. Joseph Bigos. 432 pages. Steel Structures Painting Council, 4400 Fifth ave., Pittsburgh 13, Pa. $6.

Volume 1 describes the best of the current surface preparation and painting practices in various industries. The manual is written from the viewpoint of paint users. It is a practical encyclopedia of economical and stais-factory painting methods, rather than a technical treatise on paint formulation.

Volume 2, to be issued shortly, will include all types of important paint systems which give good results in industries studied, as well as an indexed guide to selection of suitable systems for various types of structures and exposure conditions, and also specifications for surface preparation and pre-treatment, paint applications, and paint.

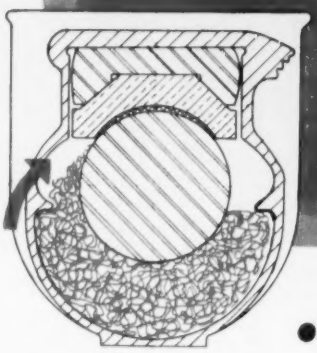
PAMPHLET

RAILROAD FILM DIRECTORY, Fifth Edition, Revised. 58 pages. Association of American Railroads, Transportation bldg., Washington 6, D.C. Free.

A guide to more than 250 films and filmstrips owned by or relating to American railroads. Included are films which feature the history, physical properties, operations, and accomplishments of the railroads and the role they play as transportation agencies.

The list also includes films which feature agricultural and industrial developments, as well as recreational and scenic attractions in the United States, Canada and Mexico. The guide has three major divisions: descriptions of films and filmstrips; address list of railroads, commercial distributors and industrial firms; and railroad and subject index.

...a HOT BOX at temperature –0°?

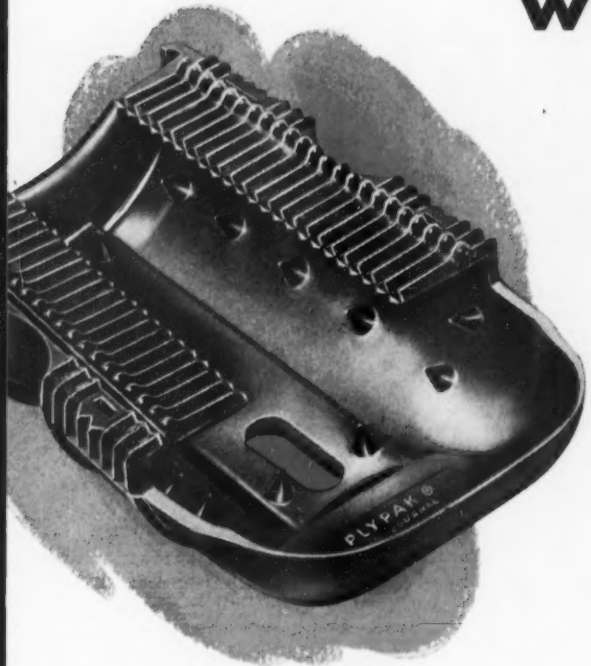


It can and does happen. As the car is put in motion, waste, frozen to the journal, works upward under the brasses. A *hot-box*, when this happens, is the inevitable consequence.

...*but* waste stays put when packed with

PLYPAK

WASTE CONTAINER & RETAINER



A.A.R. APPROVED FOR UNLIMITED USE IN INTERCHANGE

In tests conducted by railroad test engineers in railroad test laboratories, Plypak, even at temperatures of –45°, was shown to hold waste firmly in place. No climb! no grab! no hot-boxes!

Whatever the temperature, no matter how adverse the operating conditions . . . emergency braking, high-speed classification yard impacts, or the pull-outs and run-ins of regular service . . . PLYPAK contributes to proper journal lubrication.

Although only recently made available, more than 80,000 PLYPAK waste containers and retainers are already in service. Their record to date is a substantial reduction in the incidence of hot-boxes resulting from lubrication failures. Your inquiry is invited.

WAUGH EQUIPMENT COMPANY

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CHICAGO — ST. LOUIS — CANADIAN WAUGH EQUIPMENT COMPANY, MONTREAL

Freight Operating Statistics of Large Railways — Selected Items

Region, Road and Year		Miles of road operated	Locomotive-Miles: Train-miles	Locomotive-Miles: Principal and helper	Locomotive-Miles: Light	Car-Miles: Loaded (thousands)	Car-Miles: Per cent loaded	Ton-miles (thousands): Gross, excl. locos. & tenders	Ton-miles (thousands): Net, rev. and non-rev.	Road locos. on line: Serviceable: Unstored	Road locos. on line: Serviceable: Stored	Road locos. on line: B.O.	Road locos. on line: Per cent B.O.
New Eng. Region	Boston & Maine 1953	1,668	245,441	249,973	8,656	9,169	66.8	591,062	240,277	74	1	6	7.4
	1952	1,672	252,828	262,809	14,389	10,427	67.9	667,284	275,819	79	7	11	11.3
	N. Y., N. H. & Htfd. 1953	1,748	294,593	294,653	18,657	11,713	69.3	720,388	304,509	90	..	8	8.2
	1952	1,764	295,798	295,972	14,970	12,368	73.4	760,316	345,571	96	..	4	4.0
Great Lakes Region	Delaware & Hudson 1953	793	193,579	198,332	9,567	8,954	70.5	612,128	318,855	42	..	2	4.5
	1952	793	209,224	215,730	11,844	10,564	72.8	721,167	385,495	53	55	19	15.0
	Del., Lack. & Western 1953	962	264,315	277,832	21,303	11,641	66.9	769,668	333,376	65	..	1	1.5
	1952	962	276,468	292,137	25,664	12,833	69.9	841,428	386,284	70	4	4	5.1
	Erie 1953	2,235	568,115	571,707	23,820	32,087	69.1	1,939,140	763,163	167	..	2	1.2
	1952	2,242	589,593	595,638	31,020	34,465	69.5	2,134,039	885,719	176	..	1	.6
	Grand Trunk Western 1953	952	225,193	233,052	1,549	7,445	60.2	521,621	214,579	62	9	9	11.3
	1952	952	259,554	267,418	2,681	8,552	63.2	610,106	270,992	66	..	12	15.4
	Lehigh Valley 1953	1,151	220,923	225,056	7,532	10,611	65.9	715,907	323,156	33	..	1	2.9
	1952	1,206	228,877	233,665	11,410	11,917	70.0	794,295	379,038	33	..	2	5.7
	New York Central 1953	10,667	2,498,627	2,555,532	98,661	96,085	58.1	7,083,796	3,055,596	680	50	129	15.0
	1952	10,668	2,744,190	2,829,459	117,348	110,376	62.1	7,979,011	3,646,737	766	73	239	22.2
	New York, Chic. & St. L. 1953	2,161	721,367	745,019	7,555	27,722	62.5	1,976,541	865,934	196	20	36	14.3
	1952	2,160	798,785	823,266	9,002	31,967	66.1	2,279,937	1,037,059	201	..	45	18.3
	Pitts. & Lake Erie 1953	221	63,758	65,994	20	2,656	59.9	231,000	133,457	17	11	7	20.0
	1952	221	80,128	80,988	91	3,646	67.4	308,151	189,146	29	5	15	30.6
	Wabash 1953	2,381	522,999	523,649	6,960	22,233	64.9	1,453,208	566,576	109	10	25	17.4
	1952	2,381	539,214	545,346	7,877	23,354	68.3	1,495,066	610,589	118	23	37	20.8
Central Eastern Region	Baltimore & Ohio 1953	6,081	1,528,216	1,680,315	164,445	62,333	59.4	4,646,242	2,192,046	494	40	123	18.7
	1952	6,082	1,656,763	1,860,842	187,451	68,578	63.4	5,185,139	2,585,413	549	26	153	21.0
	Bessemer & Lake Erie 1953	209	51,244	54,997	241	2,567	60.5	302,653	195,376	18	10	3	9.7
	1952	212	54,543	57,964	329	3,042	63.4	346,120	225,838	21	20	9	18.0
	Central of New Jersey 1953	615	121,139	124,982	8,466	4,726	67.0	347,827	182,736	65	6	6	7.8
	1952	618	132,774	138,150	12,950	5,324	68.3	391,991	209,065	64	3	12	15.2
	Chicago & Eastern Ill. 1953	868	117,769	117,769	2,414	4,662	64.8	320,891	152,558	24	..	4	14.3
	1952	868	133,764	133,764	3,487	5,640	67.5	395,905	200,356	27	..	3	10.0
	Elgin, Joliet & Eastern 1953	236	93,500	93,767	....	2,886	62.3	232,784	123,484	36	4	1	2.4
	1952	236	95,170	96,136	224	3,347	64.8	267,426	145,304	42	..	..	..
	Pennsylvania System 1953	9,937	2,889,576	3,103,156	252,217	115,284	62.2	8,504,213	3,971,078	975	218	317	21.0
	1952	9,961	3,167,025	3,421,446	327,618	136,369	66.9	9,800,641	4,871,778	1,071	23	355	24.5
	Reading 1953	1,308	342,125	347,546	17,093	13,204	62.4	1,045,672	544,022	171	31	27	11.8
	1952	1,318	369,367	377,156	20,915	15,115	66.0	1,205,160	665,631	177	14	16	7.7
	Western Maryland 1953	873	176,231	192,460	14,207	6,474	60.6	549,265	303,677	92	16	4	3.6
	1952	878	199,745	238,729	28,755	7,141	63.5	594,132	335,355	126	6	9	6.4
Pocahontas Region	Chesapeake & Ohio 1953	5,034	1,195,265	1,219,599	32,463	49,681	55.6	4,296,714	2,320,974	401	52	149	24.8
	1952	5,036	1,333,231	1,376,185	44,238	62,598	57.8	5,398,443	3,029,676	431	66	160	24.4
	Norfolk & Western 1953	2,113	619,985	654,043	44,635	28,096	57.8	2,525,310	1,344,377	224	27	23	8.4
	1952	2,113	692,539	732,116	51,665	33,376	60.2	2,962,068	1,628,942	236	24	22	7.8
Southern Region	Atlantic Coast Line 1953	5,367	734,036	734,036	8,562	23,552	59.7	1,704,938	770,007	240	..	5	2.0
	1952	5,460	783,432	783,456	8,742	25,682	62.6	1,819,190	849,920	281	16	17	5.4
	Central of Georgia 1953	1,754	197,398	197,429	2,308	7,184	65.9	495,116	228,064	70	..	1	1.4
	1952	1,754	200,297	207,472	2,973	7,525	69.7	502,861	236,890	79	17	1	1.0
	Gulf, Mobile & Ohio 1953	2,718	305,836	305,836	299	15,628	66.5	1,071,559	500,611	85	..	4	4.5
	1952	2,718	316,474	316,474	290	17,305	72.4	1,141,186	558,639	84	..	5	5.6
	Illinois Central 1953	6,537	1,393,009	1,398,173	48,420	49,003	59.6	3,652,266	1,636,550	531	41	72	11.2
	1952	6,539	1,595,108	1,598,744	54,092	54,875	61.8	4,043,967	1,863,523	551	11	81	12.6
	Louisville & Nashville 1953	4,728	900,975	936,510	18,467	30,665	61.0	2,299,946	1,136,166	226	44	50	15.6
	1952	4,729	965,573	1,026,567	26,073	35,267	63.8	2,600,359	1,329,354	242	55	48	13.9
	Nash., Chatt. & St. Louis 1953	1,032	173,726	177,908	3,763	5,705	65.7	386,605	175,304	49	..	4	7.5
	1952	1,032	194,379	197,549	3,278	6,251	72.9	404,559	195,167	49	..	4	7.5
	Seaboard Air Line 1953	4,067	574,029	574,029	1,351	22,938	63.0	1,638,649	733,158	138	2	12	7.9
	1952	4,070	609,080	609,080	401	24,051	65.5	1,707,354	766,782	148	72	5	2.2
	Southern 1953	6,253	962,238	952,278	11,010	38,774	66.5	2,548,712	1,151,233	231	4	5	2.1
	1952	6,264	1,019,158	1,019,204	11,429	40,071	72.0	2,538,594	1,186,037	257	31	4	1.4
Northwestern Region	Chicago & North Western 1953	7,849	706,127	708,203	11,322	30,423	63.3	2,075,801	943,113	183	40	80	26.4
	1952	7,872	814,867	823,031	18,175	32,420	66.2	2,277,637	1,005,020	313	4	88	21.7
	Chicago Great Western 1953	1,435	127,853	127,853	351	7,573	66.2	510,219	223,424	31	..	2	6.1
	1952	1,435	141,721	142,092	1,969	8,823	69.3	587,367	266,384	34	..	1	3.0
	Chic., Milw., St. P. & Pac. 1953	10,631	1,091,369	1,117,054	34,342	44,584	60.6	3,087,408	1,307,489	342	18	63	14.9
	1952	10,627	1,152,276	1,184,172	42,834	46,809	64.6	3,180,955	1,422,392	376	63	73	14.3
	Chic., St. P., Minn. & Omaha 1953	1,606	164,042	165,351	4,851	5,573	65.3	389,955	174,386	60	9	15	17.9
	1952	1,606	185,053	190,502	8,795	6,067	69.0	412,795	190,196	71	..	22	23.7
	Duluth, Missabe & Iron Range 1953	568	103,967	104,517	1,508	4,270	50.5	401,293	225,829	29	24	22	2.9
	1952	569	165,520	166,341	1,350	7,222	50.5	698,448	387,478	76	..	2	2.6
	Great Northern 1953	8,291	1,167,246	1,168,251	35,048	46,313	63.8	3,386,376	1,574,702	301	141	39	8.1
	1952	8,313	1,227,671	1,232,429	42,905	47,077	63.8	3,460,829	1,651,800	324	113	70	13.8
	Minneap., St. P. & S. S. M. 1953	4,172	370,200	373,101	3,855	11,596	67.8	735,105	333,831	107	4	9	7.5
	1952	4,172	405,432	411,486	4,001	13,699	64.4	931,049	433,019	114	..	12	9.5
	Northern Pacific 1953	6,582	872,850	902,678	35,907	31,661	60.9	2,304,711	1,033,625	318	12	71	17.7
	1952	6,585	814,470	840,871	37,819	32,782	68.6	2,204,474	1,032,745	314	19	72	17.8
Central Western Region	Atch., Top. & S. Fe (incl. G. C. & S. F. and P. & S. F.) 1953	13,095	2,473,678	2,514,562	73,677	108,000	64.8	7,128,290	2,644,508	575	123	41	5.5
	1952	13,072	2,639,424	2,763,525	114,434	111,764	64.7	7,462,937	2,856,727	625	55	106	13.5
	Chic., Burl. & Quincy 1953	8,833	1,224,506	1,232,978	40,403	49,860	64.0	3,383,513	1,472,521	308	28	37	9.9
	1952	8,832	1,310,534	1,322,369	45,771	54,477	64.7	3,770,722	1,708,764	359	6	128	26.0
	Chic., Rock I. & Pac. 1953	7,866	857,201	862,444	6,476	33,357	62.3	2,375,575	1,009,976	173	2	8	4.4
	1952	7,902	951,873	948,730	8,129	37,593	63.9	2,638,221	1,146,700	196	27	25	10.1
	Denver & R. G. Wn. 1953	2,311	320,766	349,897	35,269	14,693	70.9	1,021,180	485,051	79	33	40	26.3
	1952	2,333	383,908	419,793	43,046	17,134	72.5	1,171,223	608,006	101	21	33	21.3
	Southern Pacific 1953	8,065	2,039,458	2,142,919	224,114	87,141	62.1	6,115,977	2,496,316	648	97	111	13.0
	1952	8,058	2,237,914	2,369,243	265,854	98,409	65.1	6,689,280	2,785,664	726	4	145	16.6
	Union Pacific 1953	9,821	2,810,241	2,894,793	171,127	107,374	60.5	7,722,802	3,202,283	588	99	153	18?2
	1952	9,831	2,916,066	3,026,939	205,565	116,083	68.4	7,706,727	3,355,351	669	19	115	14.3
	Western Pacific 1953	1,190	224,276	229,090	13,126	10,722	72.1	683,027	313,190	41	4	2	4.3
	1952	1,190	267,408	273,342	21,059	12,535	70.7	829,301	389,123	47	8	3	5.2
Southwestern Region	International-Gt. Northern* 1953	1,104	146,342	146,342	....	5,335	63.6	383,271	174,048	47	..	3	6.0
	1952	1,104	178,681	178,681	12	6,461	66.0	493,391	227,007	61	..	4	6.2
	Kansas City Southern 1953	886	163,190	163,210	164	8,461	64.3	619,442	288,406	23	..	2	8.0
	1952	886	184,136	184,164	742	9,794	67.3	684,082	321,454	26	2	5	15.2
	Mo.-Kans.-Texas Lines 1953	3,230	361,010	361,010	4,155	13,905	64.2	909,769	394,811	85	..	..	..
	1952	3,230	400,064	400,064	5,159	15,617	64.5	1,018,779	423,526	89	5	9	8.7
	Missouri Pacific* 1953	6,917	1,144,450	1,146,947	13,318	43,825	62.6	3,101,480	1,353,942	260	29	94	24.5
	1952	6,932	1,261,966	1,268,417	18,513	49,756	66.9	3,362,878	1,525,379	316	8	63	16.3
	Texas & Pacific 1953	1,827	320,157	320,157	3,600	13,593	60.5	995,472	376,712	61	..	..	..
	1952	1,832	348,785	348,785	3,661	14,451	63.5	1,023,760	403,040	63	4	8	10.7
	St. Louis-San Francisco 1953	4,564	635,484	635,484	6,065	25,021	64.5	1,662,934	711,218	188	..	5	2.6
	1952	4,567	650,645	650,645	6,279	24,664	63.6	1,706,250	754,985	186	15	23	10.3
	St. Louis Southw. Lines 1953	1,555	296,162	296,196	4,027	13,403	70.6	847,316	378,762	57	14	3	4.1
	1952	1,562	334,199	334,233	4,613	14,615	72.3	890,450	398,043	59	16	12	13.8
	Texas & New Orleans 1953	4,279	695,244	695,244	13,203	26,588	63.7	1,860,907	807,518	180	..	42	18.9
	1952	4,280	788,612	791,148	18,653	28,836	64.5	2,012,275	884,614	215	..	26	10.8

For the Month of November 1953 Compared with November 1952

Region, Road and Year		Freight cars on line				G.t.m.per train-hr. excl.locos. and tenders	G.t.m.per train-mi. excl.locos. and tenders	Net ton-mi. per train-mile	Net ton-mi. per l'd. car-mile	Net ton-mi. per car-day	Car-miles per car-day	Net daily ton-mi. per road-mi.	Train-miles per train-hour	Miles per loco. per day
		Home	Foreign	Total	Per Cent B.O.									
New Eng. Region — Boston & Maine	1953	2,124	7,753	9,877	2.3	40,417	2,414	981	26.2	820	46.8	4,802	16.8	119.0
	1952	1,172	8,714	9,886	2.8	43,935	2,643	1,093	26.5	932	51.8	5,499	16.6	102.8
N. Y., N. H. & Htfd.	1953	2,801	14,093	16,894	2.5	40,476	2,446	1,034	26.0	607	33.7	5,807	16.6	126.3
	1952	995	15,838	16,833	2.1	39,153	2,571	1,169	27.9	696	33.9	6,530	15.2	115.6
Great Lakes Region — Delaware & Hudson	1953	6,793	4,241	11,034	6.1	63,067	3,178	1,655	35.6	1,017	40.5	13,403	19.9	162.1
	1952	4,169	5,908	10,077	3.1	65,890	3,466	1,853	36.5	1,339	50.4	16,204	19.1	68.0
Del., Lack. & Western	1953	7,677	8,511	16,188	4.2	51,466	2,967	1,285	28.6	668	34.9	11,551	17.7	166.2
	1952	4,182	10,943	15,125	4.9	52,771	3,093	1,420	30.1	888	42.2	13,385	17.3	150.9
Erie	1953	10,746	15,357	26,103	4.0	64,998	3,444	1,355	23.8	948	57.7	11,382	19.0	129.1
	1952	7,080	20,182	27,262	4.1	67,280	3,652	1,516	25.7	1,039	58.1	13,169	18.6	129.7
Grand Trunk Western	1953	3,971	8,294	12,265	4.8	49,523	2,325	956	28.8	595	34.3	7,513	21.4	106.2
	1952	3,421	9,506	12,927	4.7	48,949	2,372	1,054	31.7	711	35.5	9,489	20.8	127.8
Lehigh Valley	1953	7,928	8,442	16,370	4.9	65,213	3,285	1,483	30.5	649	32.3	9,359	20.1	243.5
	1952	2,426	11,213	13,639	3.8	69,712	3,536	1,687	31.8	927	41.6	10,476	20.1	246.9
New York Central	1953	70,555	92,766	163,321	10.1	50,156	2,876	1,241	31.8	622	33.7	9,548	17.7	109.8
	1952	61,199	107,650	168,849	8.1	49,278	2,962	1,354	33.0	733	35.7	11,395	16.9	101.3
New York, Chic. & St. L.	1953	8,829	12,902	21,731	6.9	51,272	2,778	1,217	31.2	1,220	62.5	13,357	18.7	107.8
	1952	5,884	19,133	25,017	5.3	50,045	2,901	1,319	32.4	1,355	63.2	16,004	17.5	122.3
Pitts. & Lake Erie	1953	3,533	8,493	12,026	7.3	56,869	3,623	2,093	50.2	358	11.9	20,129	15.7	69.6
	1952	2,847	11,139	13,986	4.9	55,007	3,846	2,361	51.9	453	13.0	28,529	14.3	58.8
Wabash	1953	8,235	10,562	18,797	9.7	65,149	2,795	1,090	25.5	957	57.9	7,932	23.4	130.3
	1952	7,083	12,366	19,449	8.0	64,454	2,790	1,139	26.1	1,019	57.1	8,548	23.2	109.5
Central Eastern Region — Baltimore & Ohio	1953	56,375	41,329	97,704	4.9	47,389	3,078	1,452	35.2	733	35.1	12,016	15.6	100.5
	1952	47,084	50,607	97,691	7.4	45,138	3,171	1,581	37.7	893	37.4	14,170	14.4	97.6
Bessemer & Lake Erie	1953	6,400	822	7,222	12.8	89,702	6,043	3,901	76.1	833	18.1	31,160	15.2	67.7
	1952	5,670	1,518	7,188	11.8	100,646	6,515	4,251	74.2	1,107	23.5	35,509	13.9	43.3
Central of New Jersey	1953	4,579	9,395	13,974	8.9	40,035	3,006	1,579	38.7	444	17.1	9,904	13.9	78.7
	1952	1,865	12,721	14,586	7.6	40,482	3,091	1,648	39.3	501	18.7	11,276	13.7	86.5
Chicago & Eastern Ill.	1953	3,249	2,744	5,993	8.4	49,482	2,740	1,303	32.7	812	38.3	5,859	18.2	149.6
	1952	2,238	3,716	5,954	6.4	49,065	2,971	1,504	35.5	1,083	45.2	7,694	16.6	159.4
Elgin, Joliet & Eastern	1953	7,057	10,736	17,793	5.5	21,135	2,648	1,405	42.0	230	8.6	17,441	8.5	100.5
	1952	6,787	14,719	21,506	3.9	19,346	2,913	1,583	43.4	232	8.2	20,523	6.9	106.6
Pennsylvania System	1953	107,778	97,240	205,018	7.3	52,372	3,038	1,418	34.4	644	30.0	13,321	17.8	80.4
	1952	104,215	100,883	205,098	9.3	51,026	3,199	1,590	35.7	796	33.3	16,303	16.5	93.8
Reading	1953	18,645	16,769	35,414	5.5	42,722	3,057	1,590	41.2	526	20.5	13,864	14.0	65.2
	1952	12,967	20,860	33,827	6.0	43,681	3,264	1,803	44.0	684	23.5	16,834	13.4	78.1
Western Maryland	1953	6,984	2,950	9,934	2.9	44,721	3,179	1,758	46.9	1,039	36.6	11,595	14.3	65.9
	1952	4,818	4,582	9,400	3.2	43,310	3,048	1,720	47.0	1,267	42.5	12,732	14.6	67.3
Pocahontas Region — Chesapeake & Ohio	1953	56,775	19,000	75,775	3.5	66,736	3,609	1,950	46.7	1,014	39.1	15,369	18.6	75.4
	1952	46,111	23,899	70,010	3.2	72,830	4,081	2,290	48.4	1,382	49.4	20,053	18.0	75.8
Norfolk & Western	1953	39,180	6,827	46,007	2.1	71,985	4,139	2,204	47.8	1,038	37.5	21,208	17.7	92.6
	1952	29,764	7,457	37,221	2.6	73,060	4,352	2,393	48.8	1,338	45.6	25,697	17.1	101.9
Southern Region — Atlantic Coast Line	1953	18,537	16,282	34,819	2.2	40,027	2,335	1,055	32.7	737	37.7	4,782	17.2	111.9
	1952	15,539	19,695	35,234	2.2	38,738	2,334	1,090	33.1	833	40.2	5,189	16.7	92.4
Central of Georgia	1953	3,108	5,124	8,232	3.1	45,793	2,519	1,160	31.7	911	43.6	4,334	18.3	102.9
	1952	2,515	5,681	8,196	5.6	44,142	2,532	1,193	31.5	933	42.5	4,502	17.6	75.1
Gulf, Mobile & Ohio	1953	5,977	9,268	15,245	5.3	69 663	3,515	1,642	32.0	1,063	49.9	6,139	19.9	122.5
	1952	3,684	11,173	14,857	3.1	69,938	3,618	1,771	32.3	1,172	50.2	6,851	19.4	127.7
Illinois Central	1953	31,246	23,668	54,914	2.6	45,101	2,658	1,191	33.4	955	48.0	8,345	17.2	80.8
	1952	21,792	26,438	48,230	2.4	42,145	2,574	1,186	34.0	1,225	58.4	9,500	16.6	91.6
Louisville & Nashville	1953	39,663	11,907	51,570	3.5	44,768	2,561	1,265	37.1	761	33.7	8,010	17.5	106.7
	1952	31,098	14,447	45,545	4.7	44,087	2,698	1,379	37.7	892	37.1	9,370	16.3	107.2
Nash., Chatt. & St. Louis	1953	3,104	3,738	6,842	2.4	41,872	2,227	1,010	30.7	899	44.5	5,662	18.8	123.5
	1952	1,529	4,443	5,972	3.0	41,252	2,085	1,006	31.2	1,023	44.9	6,304	19.8	138.6
Seaboard Air Line	1953	13,090	13,629	26,719	2.2	50,907	2,891	1,293	32.0	937	46.5	6,009	17.8	149.1
	1952	9,928	15,988	25,916	2.8	51,585	2,838	1,275	31.9	1,015	48.6	6,280	18.4	104.7
Southern	1953	17,109	27,366	44,475	3.2	47,843	2,690	1,215	29.7	856	43.4	6,137	17.9	145.1
	1952	13,539	29,963	43,502	2.8	42,590	2,524	1,179	29.6	915	42.9	6,311	17.1	117.1
Northwestern Region — Chicago & North Western	1953	22,197	26,871	49 068	5.7	51,346	3,031	1,377	31.0	639	32.6	4,005	17.5	85.5
	1952	18,043	31,211	43,254	4.5	47,453	2,912	1,285	31.0	650	31.7	4,256	17.0	75.3
Chicago Great Western	1953	1,872	3,391	5,263	3.7	76,574	4,011	1,756	29.5	1,312	67.2	5,190	19.2	135.3
	1952	1,485	6,130	7,615	2.5	75,546	4,151	1,882	30.2	1,179	56.4	6,162	18.2	151.8
Chic., Milw., St. P. & Pac.	1953	35,288	30,864	66,152	5.6	51,194	2,843	1,204	29.3	676	38.1	4,100	18.1	98.0
	1952	29,112	35,319	64,431	3.7	48,810	2,781	1,244	30.4	754	38.4	4,462	17.7	85.5
Chic., St. P., Minn. & Omaha	1953	1,223	7,605	8,828	5.6	35,901	2,429	1,086	31.3	664	32.5	3,619	15.1	71.5
	1952	1,128	8,220	9,348	2.9	34,989	2,320	1,069	31.3	682	31.5	3,948	15.7	79.0
Duluth, Missabe & Iron Range	1953	15,223	521	15,744	3.4	70,095	4,078	2,295	52.9	481	18.0	13,253	18.2	54.7
	1952	13,050	1,302	14,352	2.6	75,239	4,443	2,465	53.7	825	30.4	22,699	17.8	80.3
Great Northern	1953	23,057	25,010	48,067	3.5	52,205	2,937	1,366	34.0	1,081	49.8	6,331	18.0	91.8
	1952	20,592	23,513	44,105	3.5	48,506	2,855	1,363	35.1	1,250	55.8	6,623	17.2	90.3
Minneap., St. P. & S. S. M.	1953	6,843	7,284	14,127	5.8	40,645	1,994	905	28.8	781	40.0	2,667	20.5	114.7
	1952	5,171	9,014	14,185	5.4	45,293	2,321	1,080	31.6	962	47.3	3,460	19.7	118.5
Northern Pacific	1953	20,982	17,984	38,966	5.3	49,224	2,664	1,195	32.6	926	46.6	5,235	18.6	84.6
	1952	17,638	17,950	35,588	3.8	48,937	2,734	1,281	31.5	1,032	47.7	5,228	18.1	79.0
Central Western Region — Atch., Top. & S. Fe (incl. G. C. & S. F. and P. & S. F.)	1953	47,633	37,075	84,708	3.4	66,444	2,890	1,072	24.5	1,062	66.9	6,732	23.1	126.1
	1952	46,043	37,643	83,686	3.9	62,586	2,843	1,088	25.6	1,133	68.4	7,285	22.1	129.1
Chic., Burl. & Quincy	1953	19,733	25,633	45,366	2.9	56,027	2,770	1,206	29.5	1,077	57.0	5,557	20.3	119.4
	1952	17,213	28,886	46,099	2.8	57,344	2,885	1,307	31.4	1,245	61.3	6,449	19.9	98.7
Chic., Rock I. & Pac.	1953	12,414	21,919	34,333	4.6	54,437	2,776	1,180	30.3	1,012	53.7	4,280	19.6	168.1
	1952	13,332	22,787	36,119	3.7	51,579	2,780	1,208	30.5	1,056	54 1	4,837	18.6	137.5
Denver & R. G. Wn.	1953	7,767	5,839	13,606	2.9	56,075	3,199	1,519	33.0	1,135	48.5	6,996	17.6	88.9
	1952	6,903	8,123	15,026	3.3	53,279	3,058	1,588	35.5	1,297	50.4	8,687	17.5	105.3
Southern Pacific	1953	31,796	41,968	73,764	2.2	54,404	3,027	1,236	28.6	1,136	63.8	10,317	18.1	98.2
	1952	28,647	47,514	76,161	2.1	52,592	3,022	1,259	28.3	1,198	65.1	11,523	17.6	107.0
Union Pacific	1953	31,678	31,387	63,065	2.3	67,524	2,781	1,153	29.8	1,620	89.8	10,869	24.6	125.2
	1952	28,730	39,231	67,961	2.3	62,206	2,675	1,165	28.9	1,646	83.2	11,377	23.5	137.5
Western Pacific	1953	2,311	2,721	5,032	5.8	73,444	3,061	1,404	29.2	1,935	91.9	8,775	24.1	166.2
	1952	2,367	4,346	6,713	3.9	72,377	3,126	1,467	31.0	1,950	88.8	10,900	23.3	183.3
Southwestern Region — International-Gt. Northern*	1953	779	5,956	6,735	3.0	56,132	2,619	1,189	32.6	875	42.2	5,255	21.4	102.6
	1952	913	8,039	8,952	1.8	56,940	2,776	1,277	35.1	874	37.7	6,854	20 6	98.2
Kansas City Southern	1953	920	5,926	6,846	2.1	81,196	3,806	1,772	34.1	1,353	61.7	10,850	21.4	232.1
	1952	1,059	7,033	8,092	3.3	75,246	3,759	1,767	32.8	1,294	58.5	12,094	20.3	203.3
Mo.-Kans.-Texas Lines	1953	4,876	6,910	11,786	3.9	53,591	2,527	1,097	28.4	1,140	62.6	4,074	21.3	152.9
	1952	3,643	7,276	10,919	5.6	52,547	2,549	1,060	27.1	1,274	72.8	4,371	20.6	139.2
Missouri Pacific*	1953	18,502	15,912	34,414	3.4	59,763	2,718	1,187	30.9	1,300	67.2	6,525	22.1	107.2
	1952	18,516	16,689	35,205	3.0	56,528	2,678	1,215	30.7	1,396	68.0	7,335	21.2	117.2
Texas & Pacific	1953	3,185	6,993	10,178	4.6	65,738	3,123	1,182	27.7	1,239	73.8	6,873	21.1	191.1
	1952	2,662	8,205	10,867	3.2	63,340	2,937	1,156	27.9	1,269	71.6	7,333	21.6	167.5
St. Louis-San Francisco	1953	12,206	14,081	26,287	2.9	48,225	2,621	1,121	28.4	935	51.0	5,194	18.4	121.9
	1952	9,010	14,520	23,530	2.6	46,811	2,637	1,167	30.6	1,004	51.6	5,510	17.9	107.8
St. Louis Southw. Lines	1953	2,381	4,497	6,878	2.2	55,049	2,864	1,280	28.3	1,781	89.3	8,119	19.2	137.6
	1952	1,826	4,977	6,803	1.8	55,383	2,666	1,192	27.2	1,795	91.1	8,494	20.8	141.6
Texas & New Orleans	1953	6,285	15,154	21,439	1.6	53,972	2,692	1,168	30.4	1,220	63.1	6,291	20.2	112.7
	1952	5,119	17,456	22,575	2.5	49,057	2,571	1,130	30.7	1,254	63.4	6,890	19.2	120.0

*Report of trustee or trustees.
Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission. Subject to revision.

Some important *economic facts* about

LOW-COST SOLID BEARINGS

Here are some conservative estimates on the cost per car per year to maintain solid bearings . . . and some basic reasons why no return on an investment in non-standard bearings could be realized:

One The average annual net cost per car for all materials necessary to the maintenance of solid bearings, including oil and packing, amounts to only 2.62% of the current cost of installing expensive non-standard bearings.

Two Based on the number of packers and oilers required by one railroad whose miles-per-hot-box average for 1952 was 3 times the average for all Class I roads reporting to the AAR, the cost per car per year for this labor is only about 3% of the current cost of installing non-standard bearings.

Three All routine solid bearing maintenance costs come to less than the annual fixed charges (interest and depreciation) on the investment necessary to install non-standard bearings. Thus, when you take the high maintenance costs for non-standard bearings into consideration, it can be seen that solid-type bearings are by far the better buy.

* * * * * * * * * * * * * * * * *

In any serious consideration of bearing economics, it must be remembered that the favorable returns claimed for high-cost non-standard bearings are neither realistic nor practically attainable in the foreseeable future. That's because:

1. Over 50% of the claimed savings are derived by including as costs for solid bearing operation the presumed loss of imaginary revenues that are in reality not available to the railroads.

2. The high cost of periodic disassembly, inspection and reassembly of non-standard bearings (in all probability far higher than comparable costs for solid-type bearings because more time, more skilled labor and more extensive shop facilities would be required) is completely ignored by their promoters.

3. The miles per failure for non-standard bearings is set at a figure several times the actual performance of such bearings in passenger service — where the bearings receive perferred (and costly) maintenance and where they carry far lighter unit loads in far less rigorous service.

4. The claimed savings for non-standard units are also essentially a *prospectus* — because their cost has been estimated at less than one fourth the current cost for comparable bearings on passenger equipment.

HOW TO LICK HOT BOXES

You can lick hot boxes best with low-cost solid bearing designs. Heat-resistant lining metals and low-cost alarms are already available. Improved lubricating methods are being developed. Combine these improvements with an intensified program to upgrade maintenance practices and hot box problems can be quickly overcome. Then too, you still retain all the inherent advantages of solid bearings — lighter weight, smoother riding quality, lowest accelerating and running resistance, highest load capacity, and many others.

Be sure you have the FACTS about low-cost solid bearings. Write to Magnus Metal Corporation, 111 Broadway, New York 6; or 80 E. Jackson Blvd., Chicago 4.

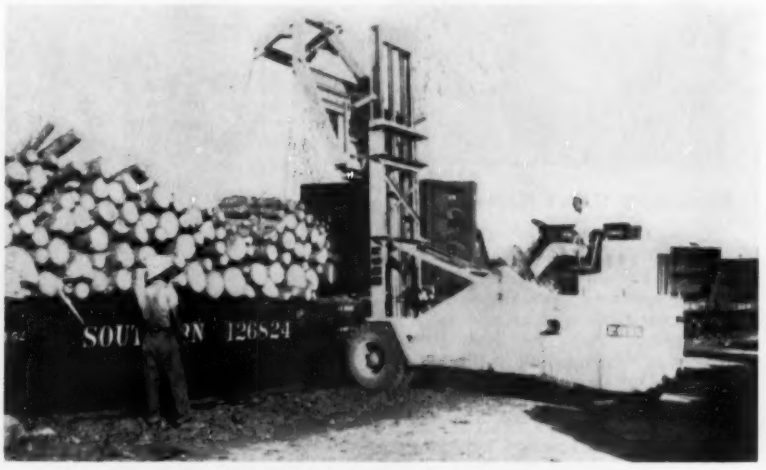
MAGNUS

Solid Bearings

Right for Railroads
. . . in performance . . . in cost

MAGNUS METAL CORPORATION *Subsidiary of* **NATIONAL LEAD COMPANY**

What's New in Products



Clark Offers "Pulploader"

Lift-truck attachment, with 9,000-lb. capacity, will fully load car from either side

A pulpwood loading device which permits loading both sides of a flat car from one side, and carries a pay load of 9,000 lb., has been announced by Clark Equipment Company's Industrial Truck division, Benton Harbor, Mich. Named the "Pulploader," the device is offered as an attachment for the Ross Series 15LH fork-lift truck.

Operation of the Pulploader is completely hydraulic and controlled from the driver's seat. The device tilts 92½ in. from the vertical and can be raised to a height of 26 ft. 10 in. Spliced load cables support the load. A unit of pulpwood, usually 1¾ cords, can be lifted from a truck and placed on a flat car in one operation.

In operation, the Pulploader is lowered over the unit of pulpwood and cables are slipped under each end and hooked together under the unit. The unit is then hydraulically raised clear of the truck and the fork-lift tower is tilted into its backward position, allowing the unit to rest against a bumper grill which evens the face of the load.

The fork-lift is then moved to the flat car and the load is lowered into place on either side of the car. When the load is in position, cable hooks are disengaged by trip cables actuated by a hydraulic cylinder on the crane arm and controlled by the driver. Cables are withdrawn from the load by raising the Pulploader until the cables are clear. The operator can then even the load by bumping protruding sticks with the heavy bumper grill, which is 78 in. high and 84 in. wide •

Impulse Relay Prevents Flashover Damage

When a short circuit occurs in the traction-motor circuit of a diesel-electric locomotive a race begins. The current from the main generator begins to rise at a terific rate—approximately 500,000 amp. per sec. If this current rise is allowed to continue unchecked, the commutator flashes over, often causing extensive damage to the generator. The race is between the rapidly rising current and the protective relay (impulse relay) that senses the current rise and acts to remove excitation from the generator field either before flashover or so quickly thereafter that extensive damage is prevented. The relay, designed by Westinghouse Electric Corporation, East Pittsburgh, Pa., to do this and the contactor associated with it are new in combination, but old as components. They act so quickly that the total time from start of the current rise to extinction of contactor arc is 1/40 of a second.

Laboratory tests show that the relay provides excellent protection to a generator. When the generator was short circuited repeatedly at its maximum voltage, the resulting flashes caused minor and superficial damage to brushholders and the ends of the commutator bars. Without the relay one short circuit and resulting flash under similar conditions caused sufficient damage to require extensive cleaning of the brushholders and commutator bars and replacement of the string band and some brushholder insulators •

Supermatic Microfilmer

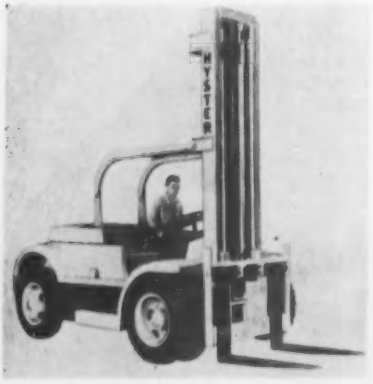
Three methods of microfilming, five different reduction ratios, and a choice of either 16-mm. or 35-mm. film are available in a new microfilmer announced by Recordak Corporation, subsidiary of Eastman Kodak Company, Rochester 4, N.Y.

The new Recordak Microfilmer, the "Supermatic," provides a choice of the three accepted methods of microfilming—standard, duo, and duplex. Interchangeable lens assemblies for the film unit, which is an integral part of the machine, provide reduction ratios of 40:1, 32:1, 25:1, and 20:1, using 16-mm. film. At a reduction ratio of 18:1, 35-mm. film can be used with the duplex method to obtain side-by-side pictures of fronts and backs of

accounting forms and other material containing numerous closely spaced entries. At the 40:1-reduction ratio, as many as 29,000 check-size images, or 28,000 images of 3-in. by 5-in. card records can be microfilmed on a 100-ft. roll of 16-mm. film.

An improved, precision-built automatic feeder, built into the "Supermatic," will feed over 500 checks and small card-size records, or 200 letter-size documents, per minute. A separating device all but eliminates the possibility of documents overlapping, and an electric counter keeps tab on the number photographed. The "Supermatic" will accept documents up to 11 in. wide, of any length.

All operating features and controls are located above desk level. A single switch sets all parts of the machine in operation. Documents enter the machine through the automatic feeder at desk level, and are ejected in original sequence into the eye-level receiving hopper, located within easy reach. There is ample desk-height work space for assembling documents prior to microfilming, and plenty of leg room for the operator •



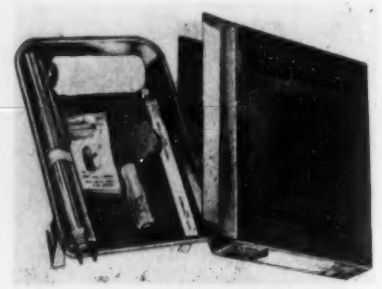
New 15,000-lb. Lift Truck Announced by Hyster

Said to be the shortest and narrowest in its field, the Hyster Model RC-150 lift truck is a completely new heavy-duty unit with a 15,000-lb. capacity on 24-in. centers. The new unit has "all weather traction," claimed to result from a completely integrated design, combining such features as balanced weight, greater power, 8.25 in. by 20 in. pneumatic tires, and ample underclearance. Other features of the new model are a heavy-duty water-cooled industrial engine, fully roller-mounted uprights, extreme braking area, and "brute-type" body construction. The truck is also available in capacities of 16,000 and 18,000 lb. at 24-in. load centers. It is a product of the Hyster Company, Portland 8, Ore. •

Multipoint Chart Recorders

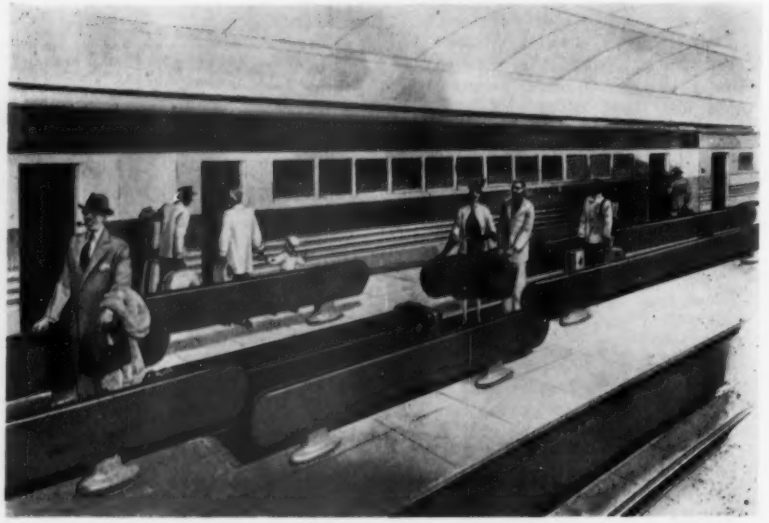
Fielden Instrument division, Robertshaw-Fulton Controls Company, Philadelphia, has announced what it calls "a new approach" in multipoint recording through two new models, the Fielden Tektolog and the Null Balance Recorder. Capable of gathering operating data from 24 separate sources and logging the collective information on a single circular chart, both are said to provide accurate measurement for a vast range of industrial process and laboratory applications.

Recording in either instrument is achieved through a six-point turret pen mechanism which traces six different colors. By dividing the standard circular chart into four equal parts and installing a mechanism to rotate the chart periodically, data from six separate points can be logged in each quarter. A standard synchronous chart drive motor keeps the chart "in time," so each quarter may be made to correspond to a 1-hr., 8-hr., 24-hr., or 7-day period •



Industrial Model Paint Roller Kit

American Products Company, 3311 Edson ave., New York 69, has announced a new industrial model paint roller kit for heavy-duty painting. The kit includes a 9-in. industrial roller; heavy-gage one-piece steel tray with baked enamel finish; special paint mixing paddle and roller cleaning tool, and three-piece sectional pole that can be assembled to form a 42-in. extension handle. Rollers have natural lambskin or Dynel covering •



THIS BELT CONVEYOR for passengers and hand baggage has been designed by the Goodyear Tire & Rubber Co. and the Stephens-Adamson Manufacturing Company for possible installation in railroad passenger terminals. The design includes belts at loading and unloading points synchronized with the speed of the main belt, so passengers can enter and leave the system safely. The conveyor system would operate in one direction for loading, then be reversed for unloading.

The initial installation of such a belt has just been authorized by the Hudson & Manhattan for the 227-ft. ramp portion of the tunnel connecting its tube station in Jersey City, N. J., with the Erie passenger station. As reported in *Railway Age* November 23, that installation is slated for completion next spring, at a cost of about $50,000 •

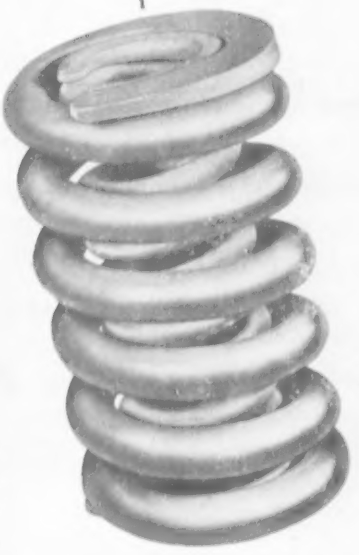
NOT A CRACK IN A CARLOAD

when the car is cushioned with "RAILWAY" SPRINGS

Fragile freight shipments arrive intact—and with no lading claims to follow—in cars equipped with "Railway" springs.

These rugged, long travel coil springs pamper your loads in a way that pleases your shippers, cuts wear and tear on your rolling stock and lowers roadbed maintenance costs.

Specify "Railway" on your next order, and get the expert services of Alco, a pioneer in the development of all types of springs to assure longer life and smoother operation for rolling stock.



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Forty tank cars can be serviced in this paint shop at one time. Every surface—interior and exterior—that can be painted, sprayed or brushed gets its protective covering here. After the car has gone through the mechanical department for necessary maintenance and repair work the important car reporting marks, advertising decoration and other stencilled information are applied. These surface finishes applied at the General American car repair shops increase the usefulness of the 47,000 GATX tank cars and keep cars available for duty.

To keep the fleet rolling, General American's more than 30 car repair shops work with the Engineering and Traffic departments to give shippers more dependable service for transporting liquids in bulk.

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Piggybacks—Question: Not If, But Whose

Provision of some kind of off-track truck service for carload, as well as less-carload freight, is an absolute necessity for the railroads. Two conditions make such service essential. One of these conditions is the fact that, to an increasing extent, industries and warehouses no longer have private sidings and are located without regard to railroad access. Even in a heavy goods industry like iron and steel, for example, one large producer found that 35 per cent of his customers had no railroad sidings. Today team-track delivery is almost synonymous with "lost to the trucks." The other condition impelling the railroads to off-track service is the high cost and slow speed of on-track movement of cars in railroad terminals.

One immediate application of T-O-F-C is in handling the railroads' own less-carload freight. A sizable number of roads already are doing it, with reported savings in costs and greater shipper satisfaction. A few others have, for many years, moved trailers for subsidiary motor trucking organizations containing either railroad or truck-billed freight. Use of T-O-F-C in railroad l.c.l. service likely will increase its volume. Nevertheless, it will still be tied to rail l.c.l. rates and to the "dumping ground" status of railroad l.c.l. service.

The real potentialities for T-O-F-C (everybody's getting fed up with the term "piggyback") lie in the business which is a truckload or better. There ought to be rich pickings in these shipments in the "twilight zone" between carload and less carload, and which are now kept off the railroads by the higher l.c.l. rates on the one hand and by high carload minimum weights on the other. Years of arguments on behalf of "intermediate" rates on which to move this growing class of shipments have been thwarted not only by the regulators' unwillingness to recognize generally any distinction beyond carload and less carload, but also by the hard fact that the present-day railroad car does not lend itself economically to the usual 5,000- to 20,000-lb. shipment.

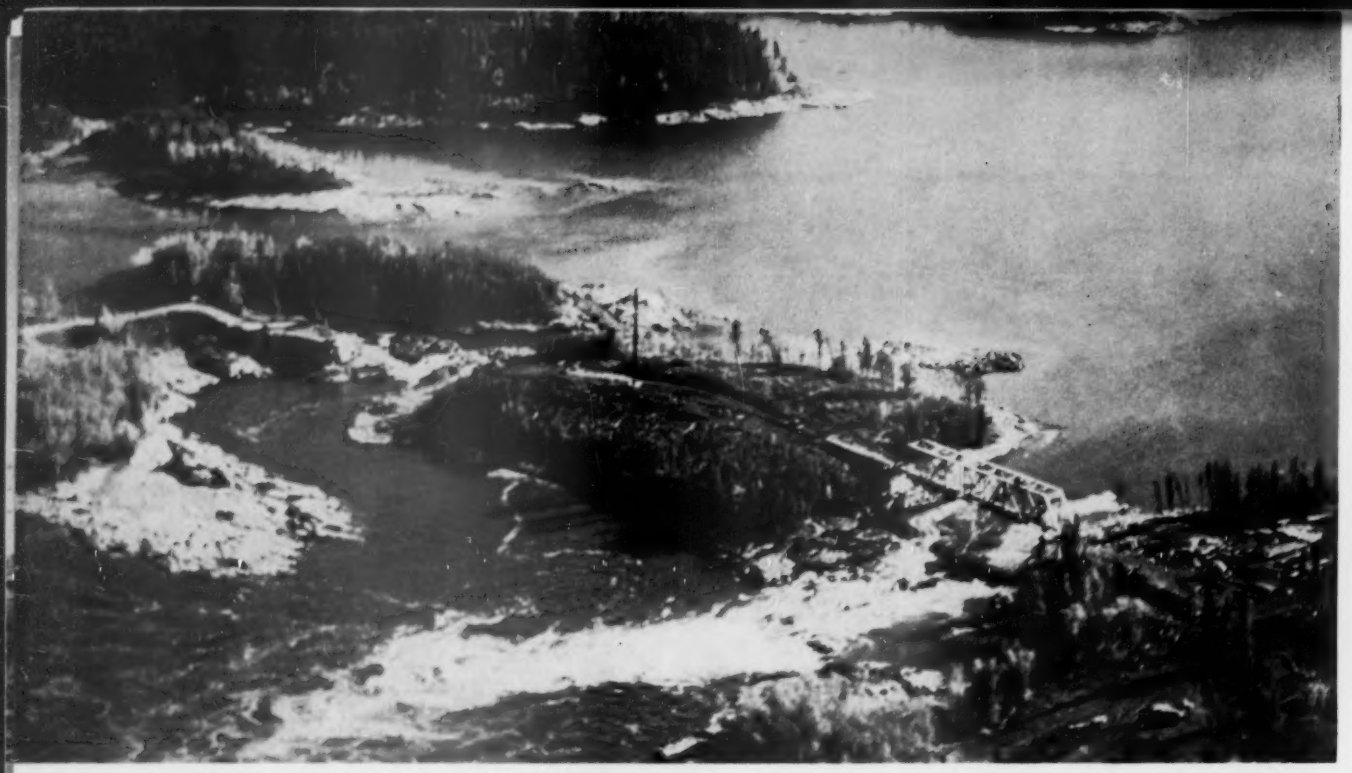
This potential area of heavy traffic can be tapped in two ways. One is to provide a service for the trailers of independent common carrier truckers, the railroad taking a flat charge as its "division" of the revenue. This service would have to be fast enough and cheap enough to attract the truckers off the highways in volume. It would bring to the railroads traffic they do not now possess; it might save the public billions in highway expenditures; and it might form the basis for a greater degree of harmony between rail and highway carriers. Its obvious dangers are that it would leave the traffic in the hands of the truckers; that it might make their service even more attractive; and that it would undermine the railroads' own rate structure.

The other method of getting this business is for the railroads to operate their own T-O-F-C service for shipments of truckload size or better—on an entirely new rate structure which takes account both of store-door delivery and of the rates of the independent truckers.

Studies of possible T-O-F-C service for independent truckers between the biggest cities indicate that close to a majority of the trailers would both originate and terminate within the terminal areas between which the flat car service is provided. For such shipments, the trucker would be providing only a terminal drayage service. With his kind of rates, the railroads might be able to do the same thing for themselves.

The truckers, it seems, greatly fear the institution of this kind of T-O-F-C service by the railroads, and have already asked the Interstate Commerce Commission to rule against it. This opposition is taken despite the fact that, so far as is known, no road in this country now offers trailer service for rail-billed carload freight. (One U.S. road is reported to be preparing to announce such a service between a few specified points by the end of the month; the two Canadian roads offer trailer service at "intermediate" rates between Toronto and Montreal, effective January 1.) There seems to be no question that some kind of marriage of rail movement with off-track movement is necessary to keep the railroads in the swing. Whether the railroads should provide T-O-F-C service for the truckers, or whether they should provide it for themselves, between points they already serve by rail, on a brand new basis of rates—or whether they should try both—are questions bound up with regulation and the law, inter-railroad competition and the disposition of the truckers themselves. The basic economic question is: Will the railroads make more net by contenting themselves with a part of the revenue earned by motor carriers using their flat car service, or by providing their own trailer service?

Is it more profitable to remain single or to enter into a marriage of convenience?



CUTTING A RAILROAD through a wilderness in northern Manitoba, where no roads exist, is a job that requires careful planning because equipment and supplies cannot economically be moved over trails during the summer.

New Line Taps Ore Deposits

New railroad, 144 miles long, through rugged terrain provides outlet for nickel and copper concentrates found at Lynn Lake, Man.

THE NEW LINE runs from Sherridon, the nearest railhead, to Lynn Lake where rich nickel deposits were found.

Building new railroad lines to push back the frontiers of Canada is one of the functions of the Canadian National. This road is used by the government as a development arm, and several new lines have been constructed in recent years or are now being built.

One of the most recent new-line projects to be completed and put into operation is one constructed through desolate Precambrian wastes in northern Manitoba between Sherridon and Lynn Lake,* at a cost of about $15 million. This line was built to link one of the greatest storehouses of natural resources of northern Canada with the rest of the world. Because of the severe subzero temperatures encountered and the difficult terrain through which the line was projected, some unusual problems were encountered.

About 1937, Sherritt Gordon Mines, Ltd., faced the problem of finding a new supply of ore to replace the fast-dwindling copper and zinc reserves at its Sherridon property. It sent a company of prospectors into the hinterlands to search for a new ore body. They scoured the country for years without locating anything extraordinary until 1941, when Austin McVey, one of the company's veteran prospectors, chipped a sample from a small outcrop on the side of a knoll at Lynn Lake in northern Manitoba. Assays proved this ore contained six per cent nickel—one of the world's richest strikes. But to get it

*See "A Railway Key to Mineral Treasures" in the July 7, 1952, Canadian Traffic Issue of *Railway Age*.

MODERN DRILLING MACHINES were employed for drilling holes in the granite and gneiss for blasting.

BLASTING and drilling operations were carried out even in subzero temperatures.

out of the ground and transported to a new refinery at Fort Saskatchewan, Alta., presented difficulties.

Lynn Lake lies in a remote corner of Manitoba, near the Saskatchewan border, 500 miles northwest of Winnipeg, and 120 air miles due north of Sherridon. Due to wartime shortages and inaccessibility of the territory, Sherritt-Gordon kept the find a secret until 1945, when it was decided to undertake the vast mining project at Lynn Lake. Sherritt-Gordon interested investors in raising the required capital, and then arranged with the Canadian government and the Canadian National to provide the necessary transportation facilities. The government, in particular, was attracted by the nickel possibilities for defense purposes.

Railroad Construction

Reconnaissance for the best transportation route to Lynn Lake was begun in 1951. After careful study it was decided to extend the line from Sherridon, the nearest existing railhead, and to cross the Churchill river, the most formidable obstacle, at Pukatawgan falls. This railway had to be built with one eye on the calendar because defense requirements had marked this project as "urgent." The line was projected through a country where "freeze-up" and "break-up" governed the type of work that could be tackled; where there were no roads, no through waterways, and no habitation; where winter temperatures hovered between 35 and 55 deg. below zero; and where mosquitoes and black flies took most of the joy out of summer.

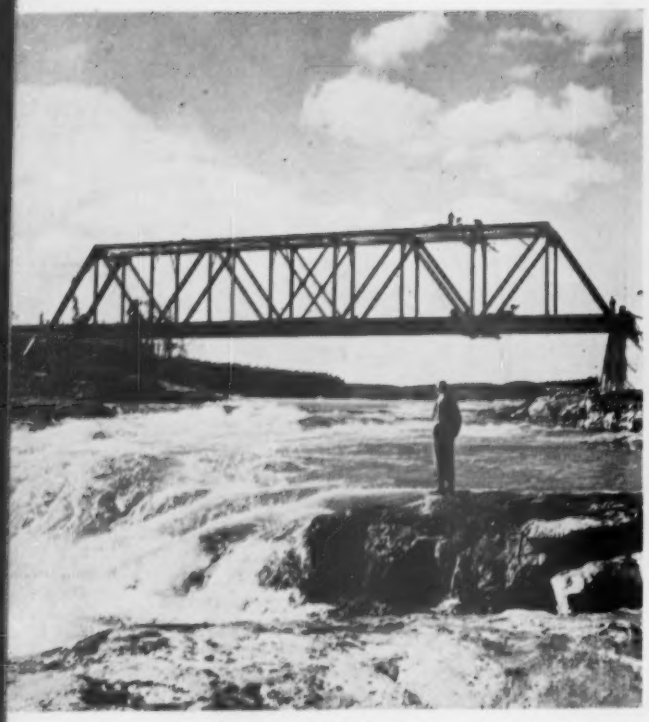
Working under the direction of Major J. L. Charles, CNR Western region chief engineer, railway engineers established the best location for the line in 236 days. Surmounting the many obstacles of large water areas, muskeg and rock hills, the new line location was established 144 miles long as compared with 120 air miles.

Within five days after the request, the Manitoba government granted the necessary land for the railroad right of way. Late in 1951 the railway awarded contracts for clearing, grading, installation of culverts and timber bridges, and concrete substructures for steel bridges. Clearing was started immediately, and a 100-ft. swath (2,050 acres) was cleared of brush and timber for the entire length of the line. About three million cubic yards of materials were moved in the grading, about 10 per cent of which consisted of granite and gneiss.

The railroad encountered transportation difficulties peculiar to this north country. Before spring break-up it had to move all camps, materials, supplies, fuel, steel spans and equipment over the hard winter trail to preselected sites. There was no margin for error or miscalculation; supplies could only be supplemented by helicopter during the other seasons, which would hardly have been feasible for bulldozers and other heavy machinery. Detailed advance planning was required, for equipment taken in during the winter was forced to operate pretty much within the area to which it was assigned.

Since the life of the new mine at Lynn Lake was put at 20 years, it was decided to build the new railroad to minimum branch-line requirements consistent with safe operation. The ruling grade was established at 1.75 per cent, compensated in both directions. Maximum curvature was set at 12 deg., with the exception of three curves of 14 deg. approaching the Churchill river. Rail weighing 60 lb. a yard was laid on untreated crossties, with tie plates used only on the curves.

Fifty-two timber bridges were constructed during the winter seasons when materials and construction equipment could be moved over the frozen ground from site to site. To cross the main channels of the Churchill river, three steel through-truss bridge spans were required. Although the project was being carried out at a time when



CHURCHILL RIVER crossing proved to be the most difficult bridge construction job.

RAILROAD FORCES, using a pioneer track-laying machine, laid track at an average rate of 3,600 ft. a day.

serious steel shortages prevailed, the railroad was able to secure spans that had been originally ordered by the Chinese National Government. One other steel bridge was used at the crossing of the Russell river near Mile Post 104.

Track Laying

Using a pioneer machine, the track was laid by railroad forces at the rate of about 3,600 ft. a day. In connection with this work, the road had to freight in about 450,000 crossties, since suitable timber could not be obtained from the stunted trees of this region. The track-laying machine consisted of a standard flat car with a deck 13 ft. 4 in. wide. It was equipped with two gasoline engines to propel itself, to charge compressed air reservoirs for the operation of air brakes, and to operate a crane for handling rails, and the power tools.

The decks of the rail-carrying cars were widened so rails could be piled along the sides of the cars and still leave the center of each rail car open for the passage of a fork-lift truck, which was operated to haul the ties ahead to the pioneer car. The ties were then placed on a platform on the left side of the pioneer machine and were rolled down ahead on a conveyor for placing them in position on the roadbed.

The fork-lift truck was also used to haul rails ahead to the pioneer car where they were picked up by an air-operated crane and moved forward and lowered onto the ties. The rails were half-bolted and quarter-spiked ahead. Bolting and spiking were completed by the use of power machines at the rear of the pioneer. Only 40 to 50 men were required to handle the entire track-laying operation.

As the pioneer machine moved along the track, it hauled a car of rails, two cars of ties, and one car of track fastenings, providing enough material for a half-shift. A work train switched the cars twice daily, in the morning and at noon, replacing the unloaded cars with new loads.

The ballasting work, also carried out by railway forces, required long hauls. Except for a small pit of good gravel deposits found at Mile Post 8, a large portion of the track had to be raised on gravel obtained from pits at Mile Posts 24 and 78, before another pit at Mile Post 95 could be worked.

Work Completed on Schedule

Despite hardships and temporary setbacks, a railway track was laid into Lynn Lake on schedule on October 23, 1953. What originally had been estimated to be a three-year job was completed on a tightened schedule in two years. On November 9, 1953, CNR President Donald Gordon drove the last spike into the line at a ceremony at Lynn Lake, and the first passenger train rolled into the town. Diesel units provide the power for the operation of the new line.

Mr. Charles did the planning and gave the necessary direction in the construction of this new line. He was assisted by R. W. Ross, retired CNR engineer of maintenance of way, who was construction engineer and superintendent of the project; R. V. Cox, assistant construction engineer; and S. S. Williams, who was in charge of the track laying.

How the Soo Runs a Sales Meeting

Increased sales effectiveness—and improved interdepartmental relations—encouraged by a lively traffic seminar

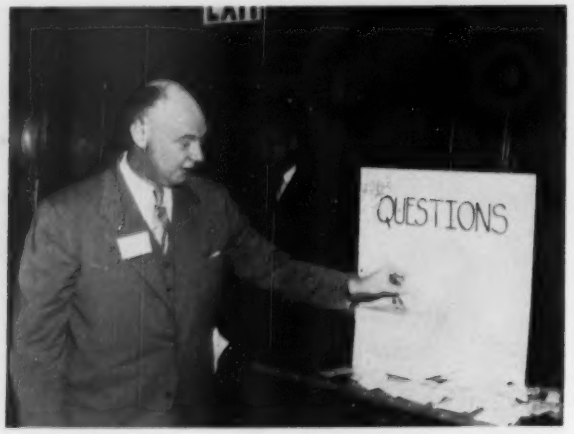
Sales meetings are a proved, effective method of stimulating sales efforts—but they can be very expensive to operate, particularly if they fail to achieve their objective. When it first decided to have a traffic department sales meeting for all sales representatives, the Soo Line management took particular precautions to be sure its meeting would be of maximum practical value. First it sought the experiences, successes and failures of other railroads and other industries in conducting such meetings. Application of these results was guided by a desire to keep the meeting "alive" and interesting.

The meeting was held in Minneapolis—the Soo Line's home town—January 5, 6 and 7. It was attended by over 145 sales and operating representatives from all over the United States and Canada, 17 local station agents, and by guest representatives from every department. As the meeting progressed, word of its lively, interesting nature spread through the general offices and brought out many officers and representatives of other departments.

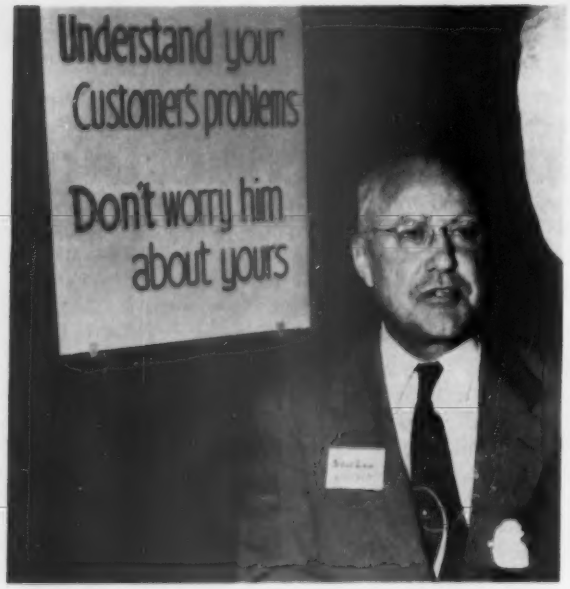
In announcing the seminar, W. W. Kremer, vice president-traffic, set the theme and the goal: "The lush economy of the war years is definitely behind us. We are now in a highly competitive market. We of the Soo Line

FORMAL SPEECHES were avoided; departmental panels were organized to answer questions.

MEETING ROOM was literally sprinkled with thought and interest-provoking signs such as this.



QUESTIONS were actively sought throughout the meeting. Questioners did not have to identify themselves.



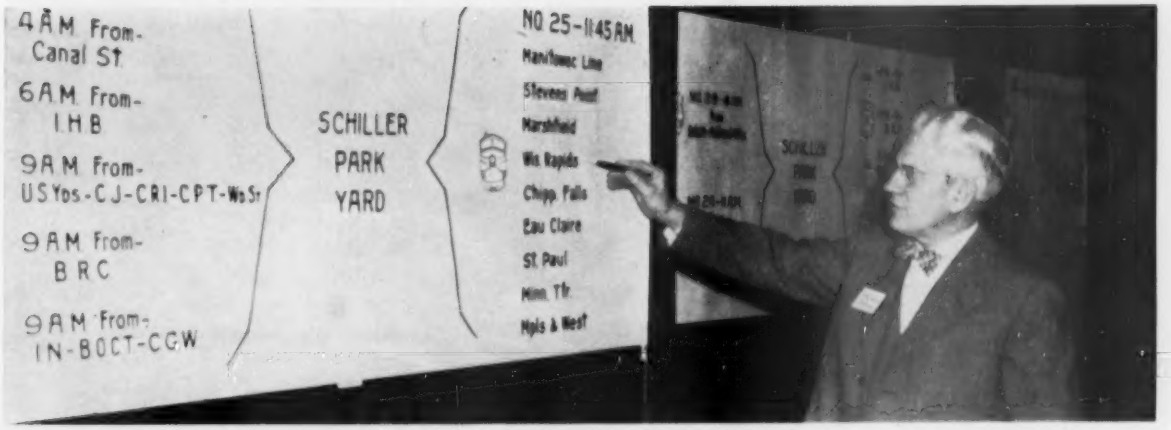
"ALWAYS wear identification badges and ribbons on your right-hand lapel; it makes them easier for the other fellow to see and read. And mark them in big, easy-to-read letters." Steve Law, agent at Detroit Lakes.

must make a new approach to our customers if we are to improve our position in the transportation industry."

"For the first time in a long while," President G. A. MacNamara told the assembly, "the success of any company will be based primarily on its ability to sell and give service."

Interest was captured and held throughout the meeting by a number of different methods—all gleaned from the experiences of others. First and foremost, long speeches were avoided by having department heads prepare written articles on their department's function, which were mailed to all scheduled to attend ten days before the actual meeting began. Questions received in advance, dropped in the question box at the door, or asked from the floor, were answered by departmental "panels" or individual representatives. Salesmen were assured of complete freedom—without retaliation—in the framing and asking of questions. The pace or tempo of the meeting was changed at regular intervals by the use of charts, projected illustrations and movies, as well as by alternating types of discussion. The meeting was broken for 10 minute rest periods about every 1½ to 2 hours.

Some of the methods by which the Soo Line sought its goals are visually presented in the accompanying illustrations.



CHARTS picturing transfer connections in the Chicago terminal examined by Superintendent Ralph Jensen.

AN OPAQUE PROJECTOR was used to show maps, charts, diagrams and pictures to the assembly.

ENTIRE MEETING was recorded on tape using four microphones to catch questions from all parts of the room.

SOME DO'S AND DON'TS FOR SALESMEN

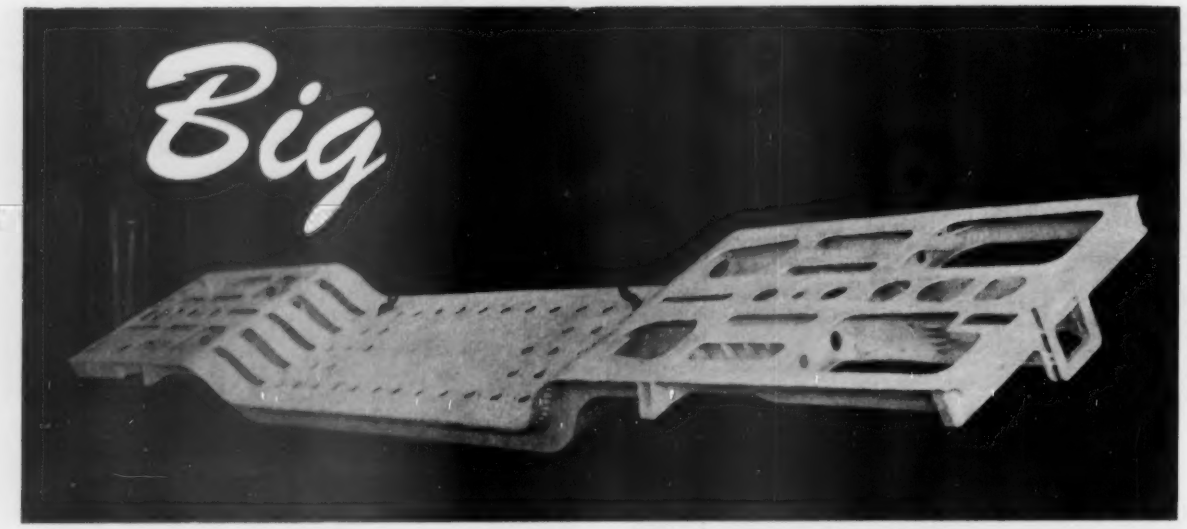
. . . as presented at the Soo Line traffic seminar by George Shafer, general traffic manager of the Weyerhauser Sales Company:

DO—

1. Be alert, always.
2. Be neat and present a good appearance (this includes the appearance of your car, your luggage, and your "working tools").
3. Be sober (it is not necessary to be a toper to get business).
4. Be genuinely friendly (avoid a "thin veneer of friendliness").
5. Be well posted on your rates and service (and know where to get correct answers to the questions you may not know).
6. Keep yourself before your customers by making calls regularly (if one is out, leave your card).
7. Find out who actually controls the traffic within each company and make him your regular contact.

DON'T—

1. Waste your customer's time (size up your man and your business with him; study the best time to call and how long to stay).
2. Go over your sales contact's head for any reason. (If you want to see some executive elsewhere in the company for social or other reasons, always go through the traffic department.)
3. Overlook the "little man"—he may be the boss tomorrow.
4. Visit in the "outside office" without permission.
5. Persist in soliciting specific moves when company rules prohibit, unless there is a valid reason for doing so—and then, be very careful.
6. Try to "buy" traffic. (Responsible traffic men do not expect to "sell" their business to any carrier.)



TYPICAL COMMONWEALTH UNDERFRAME for 125-ton depressed center car, made in one-piece steel casting over 58 ft. long which combines many individual parts in a single strong unit construction.

. . . the Word for

General Steel Castings

Railroads all over the world come to this company for their largest and most intricate casting needs

Remarkable things, through long familiarity, are too often taken for granted. Railroaders have been doing business with the General Steel Castings Corporation since 1904; the outpourings of its giant foundries have been part and parcel of the industry practically since present-day railroad men have railroaded.

Lest the familiar remain neglected as commonplace, *Railway Age* recently took a look at the company's plant in Granite City, Ill., just east of St. Louis, found it spectacular, and herein reports some of the noteworthy aspects about an operation which is full of surprises and superlatives.

General Steel Castings operates the largest steel foundry building in the world and produces the largest and most intricate steel castings ever made for railway service. It employs up to 4,000 people at Granite City alone, to turn out 4,000 tons of finished castings a month. Its products go to all major railroads in this country and to rail lines in 54 foreign countries.

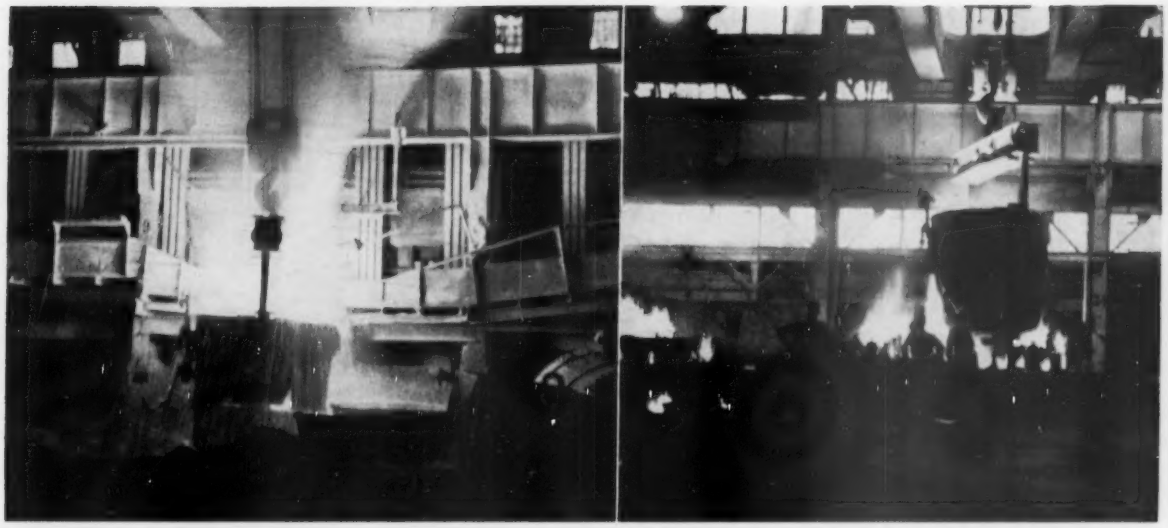
Perhaps the most striking economic fact about General Steel Castings is its export business. It is expensive to ship large castings long distances. Such difficulties as "dollar shortages" and contrasting national price levels are serious obstacles to the sale of U.S.-made heavy goods products abroad. Despite these factors, foreign railways find it both profitable and necessary to buy their heavier casting requirements at General Steel Castings.

The one-piece steam locomotive beds which were once produced in large quantities for American railroads are still being turned out by General Steel Castings for a large number of countries abroad where steam power continues dominant. (There is still an active U.S. market for integral beds for electric and turbine-type locomotives and for reciprocating steam locomotives for one large road which remains wholly steam-powered.)

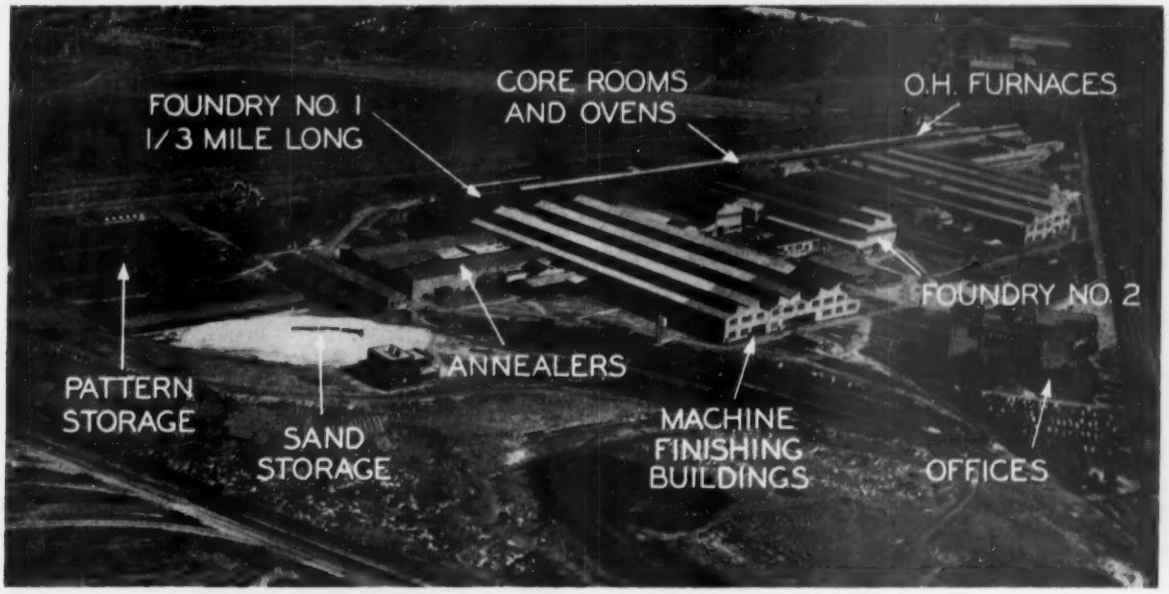
The advantages of one-piece locomotive beds and their widespread recognition abroad are shown by the fact that, in 1948, one hundred were ordered for locomotives then being built in Glasgow, Scotland, for use in South Africa. The cast steel beds had to be moved to the Atlantic seaboard by rail, then by ship to Glasgow, and finally in the completed locomotives all the way to South Africa. Additional locomotive beds are currently being shipped for foreign-built steam locomotives to be used in South Africa and also in Australia. Few American-built products have shown their economic worth in more spectacular manner.

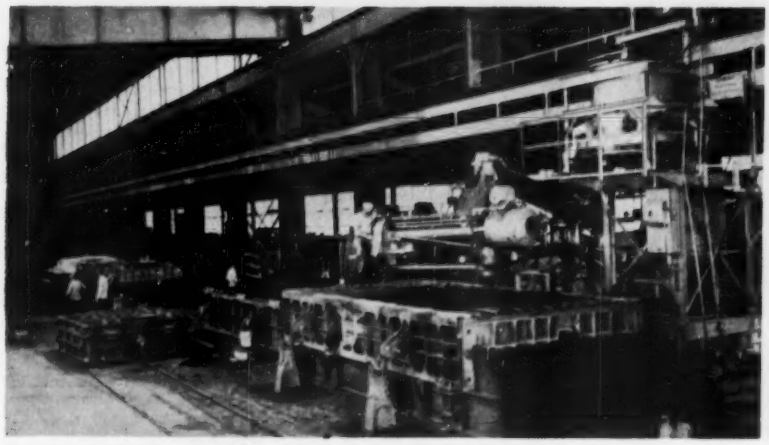
Product Development

Modern reliable steel castings have a long service life; hence they do not stimulate repeat business at short intervals. To make up for this, General Steel Castings engineers and designers have been alert to come up with new products to help railroads and keep plants busy. The new pulpwood car, for example, is a standardized



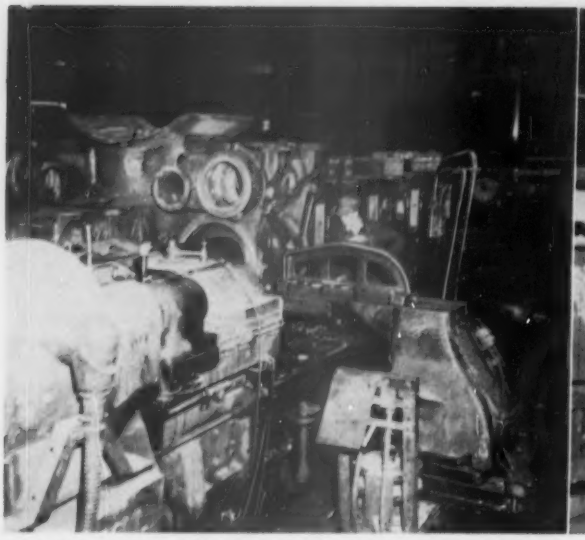
SPECTACULAR PRODUCTS require spectacular plant and equipment—(*left*) Open-hearth furnace tapped to fill a 50-ton capacity ladle—(*Right*) Pouring large freight car underframe mold from one point in two to three minutes.

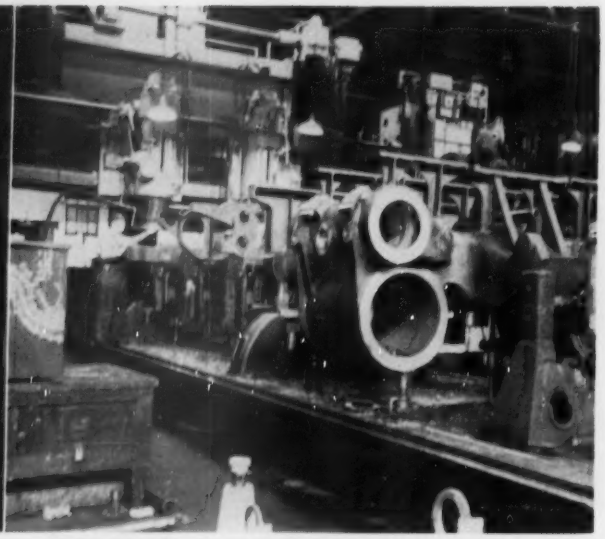




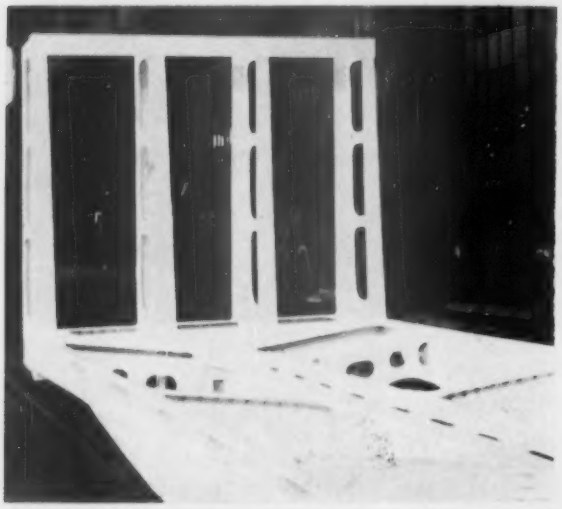
GENERAL STEEL CASTINGS plants have experienced phenomenal growth and improvement over the years to take care of railway, heavy industry and military requirements. This layout of the Commonwealth plant, Granite City, Ill., includes what is reputed to be the longest steel foundry building in the world, extending 1,975 ft.; the entire plant occupies 127 acres, with about 37 acres under roof.

LEFT — **SAND HANDLING EQUIPMENT** includes two flexible high-capacity sand slingers. Operator rides at the end of a double-hinged arm and nozzle which can be quickly positioned over any point to throw one ton of sand per minute down into the mold at such high speed that no subsequent shaking or tamping of the mold is necessary.

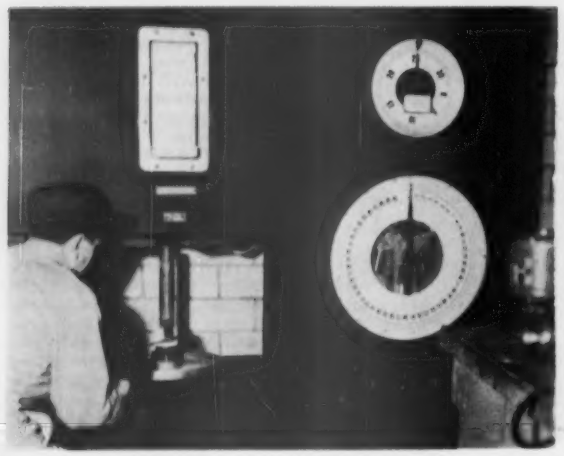




ONE-PIECE CAST STEEL LOCOMOTIVE BED having cylinders bored (left) and being machined (right) in one of the big planer-type milling machines. This Commonwealth product, made in single castings up to 60 ft. long and weighing 45 tons, is widely used on foreign railways in spite of extra shipping costs.

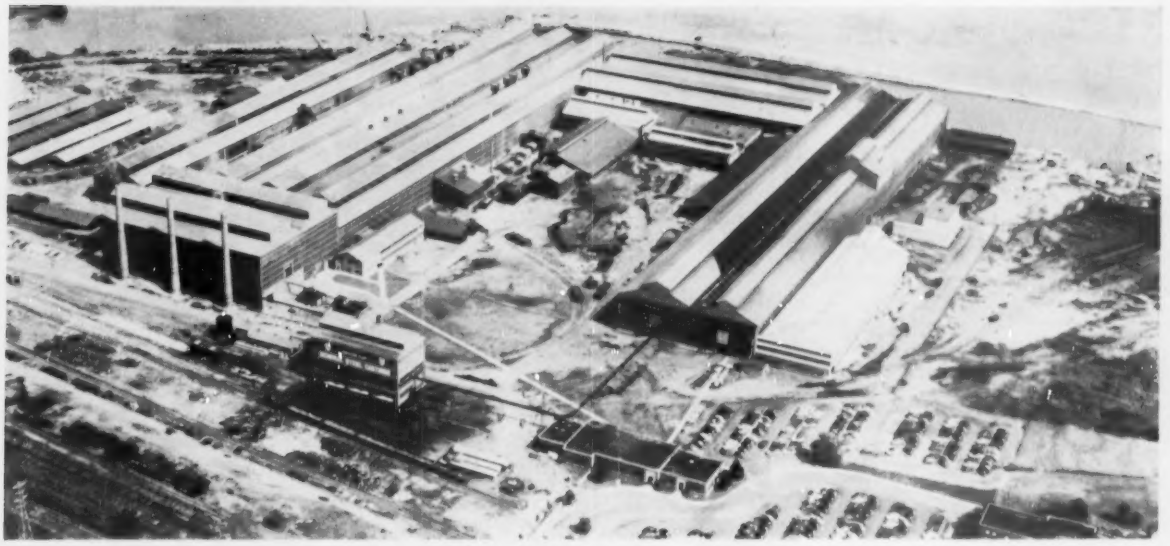


PULPWOOD CAR underframe with cast steel ends joined to one piece base casting by interlocking welded construction.



***ABOVE*—NOT A CIVIL ENGINEER'S PROFILE MAP—but typical Stresscoat patterns made by the General Steel Castings test department to disclose locations of heavy stress in truck pedestals.**

***LEFT*—DILATOMETER in the sand test room which is used in checking the physical properties of foundry core sands at elevated temperatures as high as 3,000 deg. F. This small piece of equipment cost $5,000.**



EDDYSTONE PLANT of General Steel Castings in the Philadelphia industrial area, occupies 112 acres with 20 acres under roof.

design with Commonwealth cast-steel underframe and ends which has given exceptionally good results in service and helped the railroads serve an expanding pulpwood industry. During the past few years, eight railroads have ordered underframe and end castings for nearly 2,500 of these 50-ton cars which have a loading capacity of 22 cords of pulpwood.

Another type of freight car which early showed the exceptional corrosion-resistance properties of cast steel was the gondola with cast steel underframe in a single one-piece casting. For example, conventional cars previously used in the shipment of bulk sulphur were notoriously short lived because of corrosive action of the lading, especially when subjected to moisture. Three hundred sulphur cars with one-piece cast-steel underframes built in 1927 have outlived four to five all-wood or wood-steel car bodies. About 1,000 cars of this type are now in service.

More commonly used cars which frequently embody cast-steel underframes are flat cars and depressed-center cars. A good example of the former is the 300 "piggyback" flat cars with Commonwealth underframes recently made at the Eddystone, Pa., plant of General Steel Castings for service on the New Haven. The depressed-center car is made in capacities up to 200 tons. A recent design of 125-ton car utilizes a one-piece underframe casting, 58 ft. 4 in. long and weighing 76,530 lb.

For passenger-train equipment, special Commonwealth cast-steel designs include a multiplicity of underframe end parts in single strong unit castings which form an effective part of the car structure and add greatly to safety in case of derailment, or accident.

Foundry Features

Human beings are dwarfed in the two foundry buildings at Granite City, the longer of which grew from a length of 394 ft. almost exactly 50 years ago to its present length of more than one-third of a mile. Here is ample room for exercise. In fact, a motor scooter to convey visitors along the extensive paved walkways *inside* the buildings would be welcome.

A typical foundry "atmosphere" prevails, but also good order and as much cleanliness as can be expected in foundry operation. Adequate facilities for handling, reclaiming and testing sand are second in importance only to making the steel itself and require an impressive array of equipment with capacity up to 1,600 tons a day. One of the interesting tools in the sand test room is a dilatometer for testing sands at elevated temperatures up to 3,000 deg. F. This one small piece of equipment cost $5,000.

A big and essential device in the foundry is the machine for shaking molding sand out of flasks which include the upper "cope" and the lower "drag." This foundry "shake-out" is 14½ ft. wide by 31½ ft. long, and employs six shaking units, each rated at 19 tons capacity and powered by a 30-hp. electric motor. The heaviest flasks weighing up to 71 tons (with sand) are shaken out progressively on this machine as if they weighed only that many pounds.

Perhaps the most spectacular equipment, outside of the foundry, includes the batteries of great machines used to finish all Commonwealth castings so that they are ready for assembly in the finished product without further work. There are 88 of these machines (in five big shop buildings), including 56 millers, planers, slotters, etc., 23 drills and 9 hydraulic presses. The largest machine, a multiple-head miller, has a table 62 ft. long, 12½ ft. clearance between side housings and 10 ft. under the cross rail. The total investment (replacement value) in these large special-purpose machines is estimated to be about $10 million.

The General Steel Castings story is one of big things done in a big way—with a large investment over the years in plant and equipment which has served not only the railroads, but the whole country, in times of war as well as peace.

MORE THAN $2.40—

Say John P. Kiley and John E. Kusik

Differences of opinion existing among railroad men as to whether the current freight car per diem rate is compensatory, and whether the cost formula upon which it is based is adequate and proper, were developed in statements in the recent Interstate Commerce Commission Hearings in the No. 31358 proceedings. Some of the issues thus developed are summed up in the excerpts of testimony, pro and con, set forth here.

John P. Kiley, president of the Milwaukee, and John E. Kusik, vice-president—finance, of the Chesapeake & Ohio, supported the present per diem rate, but also contended that $2.40 is non-compensatory to owners. Mr. Kiley contended that present and past per diem rates have been "deterrents" to the "purchase of freight cars which railroad management might have been willing to buy had the per diem rate come somewhat closer to realistic reflection of the cost of ownership." He said he did not think that in this day of high costs the per diem rate will be set high enough to be an "inducement" to buy cars. "Unless the cost calculations underlying the per diem rate recognize an adequate return on current costs, the incentive to buy new cars is destroyed. . . . An adequate and fully compensatory per diem rate is needed if perpetuation and aggravation of car shortages are to be avoided."

Present Rate Encourages Rentals

Messrs. Kiley and Kusik were substantially in agreement in considering present and past per diem rates as an inducement to rent rather than purchase freight cars. Both referred to decreases in the number of cars in the national pool since 1921 as well as the even more substantial cuts in ownership made by the defendant roads in the per diem case (*Railway Age*, January 25, page 11). They also showed that in the same period car ownership by their respective roads had increased. Mr. Kiley indicated, however, that the "non-compensatory" per diem rate at one time had played a part in his railroad's decision not to buy about 1,800 cars. Mr. Kusik, on the other hand, indicated that the C&O's car supply was actually greater than needed to handle its own traffic and that if the per diem rate were not made compensatory "it might . . . be smart business for the C&O to embark upon a program of reducing its car ownership to a basis commensurate with its minimum needs."

Cannot Ignore "Value of Use Factor"

Another point of general agreement between them was that in computing car owning costs the reproduction value of the car should be used as a base in figuring depreciation and interest return.

It was the Milwaukee president's contention that the commission in this case could not ignore "the value of use factor" in fixing the per diem rate. The "value of the use of a freight car greatly exceeds the per diem rate," he asserted.

Some of the reasons Mr. Kusik gave for his contention that the per diem rate should be increased if it is changed were these:

1. Federal income taxes take roughly 50 per cent of the return on property utilized in business. Hence, the per diem rate should provide for a return of six per cent after taxes. This, he said, alone should increase the per diem rate by 65 cents.

2. The depreciation rate should be changed from 3.12 per cent to 4.25 per cent. "In view of advancing technology, changing traffic patterns, and the competitive situation in transportation industry, it may be reasonably anticipated that freight cars will become obsolete long before a period of 27 years." Mr. Kusik suggested a car life of 20 years is "more realistic." Still figuring 15 per cent for the salvage value at the end of 20 years, this would raise the daily depreciation cost (in the Association of American Railroads formula—see facing page) from 54 cents per active car day to a total of 73 cents.

3. The figure for return on investment in freight cars and repair facilities should be based on current costs, thus increasing it from the present 47 cents to 60 cents.

4. The present car-day divisor, determined on the basis of active car days for a 20-year period, is 86 per cent. This, Mr. Kusik said, was based on the past, and "does not take into account prospective traffic levels nor average utilization when we have achieved an adequate car supply." The present car-day divisor, he stated, reflects high utilization during periods of car shortage and "tends to understate costs." Decreasing traffic levels or an increase in the car supply would lower the utilization ratio.

Thus, if anything, Mr. Kusik concluded, the per diem rate should be increased by at least 97 cents. "Financial decisions are, of necessity, based on economic factors such as the cost of money and the prospective return in future years in risking capital invested. The prospective rate of return must be based on the best possible forecasts of the anticipated life and extent of utilization of the facilities proposed to be acquired."

High Should the Per Diem Rate Be?

LESS THAN $2.40—

Says G. F. Glacy

The Association of American Railroads' summary of freight car costs is "useless as a means of ascertaining freight car costs, and is, therefore, completely unsound as a tool by which to ascertain a proper per diem rate," said G. F. Glacy, vice-president, accounting of the Boston & Maine. Any formula, he said, which shows variations in daily car ownership costs between roads "anywhere from $1.28 up to $57.67" is "unsound." The variations, he remarked, are principally "among the items of repairs to freight cars, taxes, and interest and investment on fixed facilities used in repairing cars, items 1 through 6" (in the A.A.R. ownership cost compilation). He could think of no reason "why it should cost the Utah . . . more than 25 times as much to own a freight car as it does the Chesapeake & Ohio."

Careful Analysis of Expenses

In describing the "unsoundness" of the A.A.R. formula Mr. Glacy stated that he had made a "more careful analysis" of B&M experience in regard to certain expense items. As to car repairs, the B&M had found the costs were 41.1 cents per day. This did not take into account many cost items in the A.A.R. formula, such as (primarily) inspection, or the "deficiency" between the cost of repairing foreign cars and the amount received by the B&M for performing that service.

Mr. Glacy's analysis of taxes as a cost of car ownership (Item 2, in the table) threw out $2,183,571 of the amount the B&M reported ($2,936,373) under the A.A.R. formula. Of this amount, he called $2,178,216 "inapplicable" city or town taxes assessed on "local real property outside . . . the right of way," while $5,355 (Maine sales taxes) was adjudged not applicable to rolling stock. The remaining amount, $752,802, representing ad valorem and franchise taxes, was left in the B&M version of the A.A.R. formula, "although we do believe it is not strictly assessable against rolling stock."

Reasoning Behind Graduated Rate

Having expressed his objections to the A.A.R. formula, the B&M vice-president proceeded to explain the reasoning behind the formula which resulted in the graduated per diem rate proposed by his railroad. For cars 1 to 15 years old, Mr. Glacy set the rate at $2.23 per day. He set the original cost of a car in this age group at $6,000, amortized its cost in 15 years ($400 per year), and allowed interest at a rate of 6 per cent yearly on the unamortized portion of the investment In the 15-year period, then, the owner "recovered" $8,400 or $1.62 per *calendar* day. The B&M formula then allowed 41 cents per day for repairs and 20 cents per day miscellaneous expenses such as taxes, interest and depreciation on repair facilities, compensation for unserviceable days, cost of hauling freight car repair material.

Per diem on cars in the 16 to 25-year age group was set at $1.88. The same general formula was followed in figuring this rate. Rebuilding costs were estimated at $3,500, to be amortized over 10 years ($350 per year), while interest was provided for at 6 per cent per year on the unamortized portion of the investment. Thus the owner would "recover" $4,655 in 10 years or $1.27 per calendar day. The same amounts are provided for daily repairs and miscellaneous expenses, bringing the rate to $1.88.

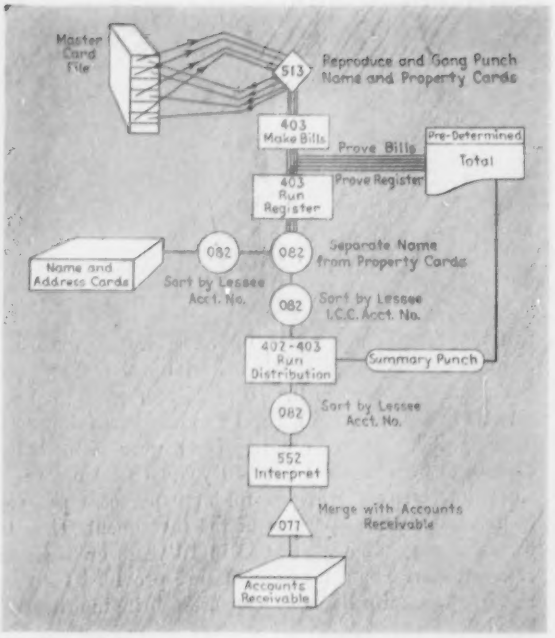
"Token" Allowance for Older Cars

The per diem rate on cars more than 26 years old the B&M sets at $1.01. "Cost of car at this point has been completely amortized," but a "token" allowance of 40 cents per day was made. Added to the 41 cents for repairs and 20 cents for miscellaneous expenses, this establishes a rate of $1.01 for these cars.

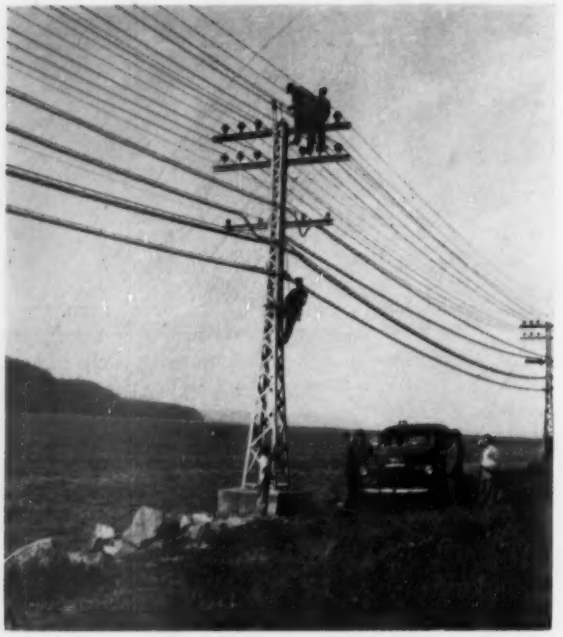
Using the three age group rates, an overall rate which would reflect the proportions of each road's equipment in the various age brackets would be worked out, under Mr. Glacy's proposal.

APPLICATION OF A.A.R. FREIGHT CAR OWNERSHIP COST FORMULA—1952

ITEM	Countrywide (Cents)	B&M (Cents)
1. Freight car repairs	97.836	121.334
2. Cost of taxes	14.334	18.441
3. Interest return on depreciated freight car value	43.588	42.822
4. Interest on value of shops, enginehouses, other fixed property	3.540	13.816
5. Annual depreciation on freight car equipment	53.598	51.758
6. Annual depreciation on shops, enginehouses, other fixed property	2.624	10.338
7. Miscellaneous maintenance of equipment accounts	7.597	13.528
8. Maintenance of shops, enginehouses, other fixed property	6.538	21.565
9. General expense	5.010	8.827
10. Deadhead haul cost of freight car repair material	2.704	3.687
11. Interest on investment in stock of freight car repair material	0.669	0.913
12. Interest on working capital	0.697	0.989
13. Total freight car ownership cost—Year 1952	238.735	308.018
Converted to:	$2.40	$3.08



FLOW CHART shows step by step procedure in making rent bills. Numerals indicate type of I.B.M. machine.



PUBLIC UTILITIES are large users of railroad property, paying rent for the privilege.

How the NYC Makes Rent Bills

Two I.B.M. cards serve all purposes including making of "dunning" notices —Savings amount to about $6,000 annually

By G. H. ALBACH
Comptroller
New York Central

With nearly 25,000 leases, permits, licenses, and other forms of rental agreements currently in force, the New York Central issues more than 50,000 rent and auxiliary bills annually. Preparation of such a large number of bills is a major task, but in addition, complications arise because of the variety of types and terms in the bills and agreements. Among variables that must be provided for are the following:

1. Nature—rent, taxes, utilities, repairs, insurance, etc.
2. Period—annual, semi-annual, quarterly, monthly, etc.
3. In advance—or at end—of term.
4. Collection—directly by mail, by our agents, by collection agencies, by payroll deductions, etc.
5. Funds—U. S. or Canadian.
6. Number of copies—single or multiple.

Since July 1953, we have succeeded in placing our lease rental accounting on machines, with measurable economy of results. From just *two* punched cards for each lease or agreement we prepare, monthly: bills; bill register; distribution to income and other accounts; accounts receivable subledger; daily statement of cash receipts; monthly subledger trial balance; and reminder notices, as required.

The basic lease record consists of a loose-leaf sheet for each agreement, which is filed alphabetically in visible-index post binders (Fig. 1). This record constitutes an alphabetic register and crossindex of lease agreements, complementing the original agreements filed in lease number order. The order of this record forms the basis for the assignment of a lessee account number to each agreement. These numbers carry through the entire operation, becoming bill numbers, and make each item in the bill register, accounts receivable subledger, distribution, and cash receipts statement readily identifiable.

The entire machine operation originates with and proceeds from the master cards, two for each agreement (Fig. 2), except where divided distribution makes additional cards necessary. One of these, the "name and address" card, also carries the account number. The other card, first known as the "property" card, shows account number and location, as well as the amount billable, and provides for distribution, controls expiration, and other controls and segregations as required.

The master cards are carefully guarded, and are used for reproduction purposes only. After reproduction, the master cards are returned to their locked cases, and the reproduced cards are used in subsequent operations. The reproduced "property" card is known by that name dur-

TECHNIQUE FOR HANDLING RENT BILLS

- More than 50,000 rent and auxiliary bills prepared annually.
- With *two* I.B.M. cards the NYC prepares
  - Bills
  - Bill register
  - Distribution to income and other accounts
  - Accounts receivable subledger
  - Daily statement of cash receipts
  - Reminder notices, as required.
- Three I.B.M. panel boards handle entire operation:
  - 1 board—prepares bills and reminders
  - 1 board—prepares bill register
  - } 403
  - 1 board—prepares distribution run, summary cards, cash receipts statements and the trial balance run. Can be used on 402 and 403.
- New system saves about $6,000 annually.

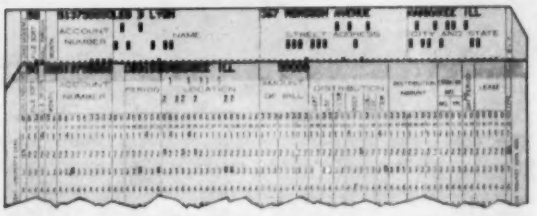


FIG. 2. MASTER CARDS—Top card is name card, lower the accounts receivable card, similar to the property card.

FIG. 1. BASIC RECORD — Lessee account number (08513750000) is a code. First two digits indicate month of billing, while the next six denote the lessee's name.

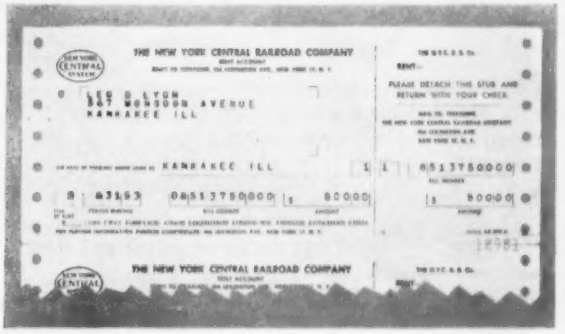


FIG. 3. CONTINUOUS FORMS—Code to left of lessee's name indicates whether bill is to be mailed, deducted from employee's pay, etc. Code in boxes on each side of vertical perforation tells whether the bill is payable in U.S. or Canadian funds.

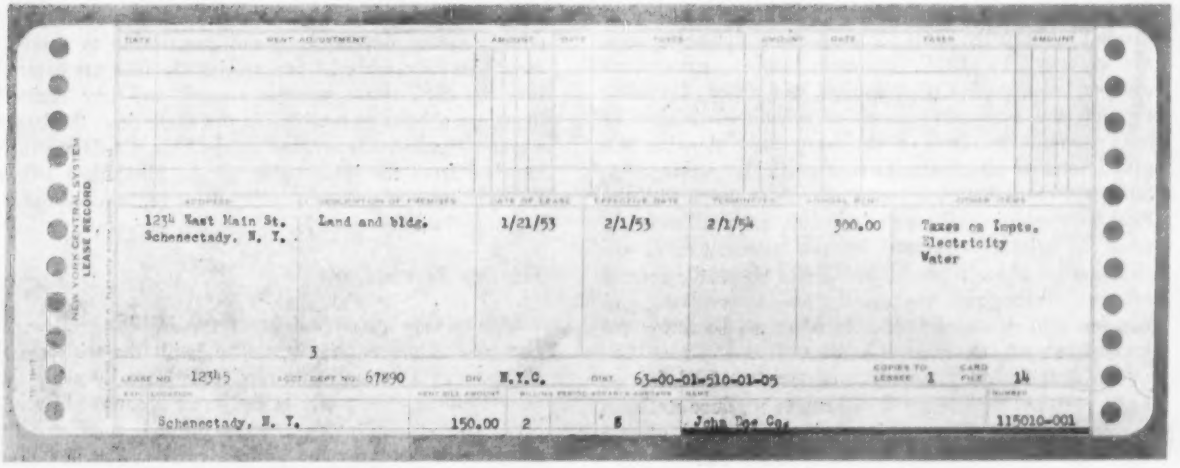


FIG. 4. REGISTER OF BILLS—The distribution form is also used for monthly subledger trial balances.

ing the printing of the bills and register, and the running of the distribution. Thereafter it serves in lieu of posting to an accounts receivable subledger, and is known as the "accounts receivable" card. The master cards are thus permanent until changes in the agreement require the punching of new masters.

The cards are filed by period of payment, or "file-sort" number. Under this system of filing, the cards to be reproduced in any month are always ready for use without sorting, or collating after they have been reproduced. Another advantage is the easy separation for billing on single or multi-part bills to suit various lessees' requirements.

Each month, the "file-sort" groups which are due are withdrawn from the master card file, and the cards reproduced. At the same time the new cards are gang-punched to indicate audit month (the two-digit prefix to the lessee account number) and period covered (Fig.

ACCOUNTS RECEIVABLE cards are housed in a Ferris rotary file.

I.B.M. TYPE 403 accounting machine makes bills, reminder notices and all other printed records pertaining to the leases.

2). The master cards are then returned to the master card file, and the reproduced cards are fed into the accounting machine, and the bills made on continuous forms (Fig. 3).

To aid in identifying rent payments received, a stub, with the bill number printed thereon, is attached to each bill, with the request that the lessee detach and return it with payment.

Producing the register of bills (Fig. 4) is simple. The cards which have served for the billing operation are run through the printer a second time. The register shows name of lessee, location of premises, account number, distribution, and amount. This is for record purposes only, as no copies of rental bills are made.

After registration, name and address cards are separated from property cards, and the former are placed in a side file. Property cards for the various file-sort groups are resorted by I.C.C. account number, subaccount number, etc., and a distribution run (Fig. 4) made through the accounting machine. Each subdivision of each account produces a summary card showing the grand total of all credits to that particular subaccount. Summary cards for each group are run to prove with the total. (In addition, the run indicates, with an asterisk, totals by primary accounts, but no summary cards are punched for those totals.) These cards, from the several bill runs throughout the month, are accumulated and run for a final consolidation, forming the basis for the journal entry to the general books.

The distribution summary cards are retained for an audit year and then resorted and run to produce statistics required for monthly, semiannual, and annual reports for state taxes, I.C.C. reports, utility taxes, etc.

Accounts Receivable Subledger

The property cards, after the distribution run, are run through an interpreter machine to print the account number, audit month, and amount of bill, on the top margin. These cards now form the accounts receivable record.

As payments are received, nearly all of them accompanied by bill stubs, the cards are withdrawn by hand from the accounts receivable trays. Partial or advance payments are punched on credit cards. The pulled cards representing full payments, and the credit cards, are then run on the accounting machine to produce (in duplicate) a daily statement of cash receipts. These statements go to the treasurer for reconciliation with his bank deposits. The original statement is retained by the treasurer, and the copy is returned to the rent department.

The paid-in-full cards are gang-punched with date of payment, and temporarily stored. Every three months these cards are collated by lessee account number with previously paid cards, after which they are stored in transfer cases. The credit cards are returned to the accounts receivable trays until offset by "cash billing," whereupon both the accounts receivable and credit cards are pulled and stored.

Bills for taxes, electric current, water, etc., are prepared in the field offices. Due to the meter recordings or other variable details, it is not practicable to prepare these bills by machine. Upon receipt, the bills are entered into the basic lease account record, and any omitted items are subject to tracing. At the same time, the lessee account numbers are entered on the bills. Cards are then punched from the information on the bills; they follow the remainder of the steps outlined for reproduced cards, beginning with preparation of the bill register.

Tracing Procedure

Twenty days after mailing, all unpaid bills are traced. The tracing procedure commences with the withdrawal of cards from the accounts receivable trays by using the month coding (the prefix to the lessee account bill number). The selected cards are run through a collator together with the name and address cards which had been previously set aside. Then the matched cards are placed in the accounting machine, which produces reminder notices in the same manner as it did the original bills. After the tracing run, a sorting operation separates the two types of cards, and the accounts receivable cards are returned to their trays. The name cards are set aside again, for possible second "dunning."

At the close of a month, all the accounts receivable cards are run to obtain a detail in proof of the balance in the rent subdivision of (I.C.C.) Account 715. This detail, through the lessee account number prefix, also

(Continued on page 73)

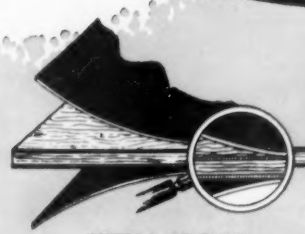
DOORS • SIDE PANELS
BULKHEADS and PARTITIONS
in This Luxury Car are *73% Lighter*
Than Standard Steel Construction . . .

...because they are MET-L-WOOD

METAL BONDED TO PLYWOOD

● Met-L-Wood, used in passenger cars, locomotives and baggage cars cuts deadweight to a minimum consistent with specified strengths, stiffnesses and durability. As an example, Type 2P2-3/8" Met-L-Wood, used in side panels and partitions has the stiffness of 1/4" steel plate—yet weighs only 2.6 lbs./sq. ft. as against 10 lbs./sq. ft. for 1/4" steel plate!

Whether you require prefabricated Met-L-Wood units to your specifications, or can use stock sizes and finishes, the basic utility and economy of Met-L-Wood for railroad rolling stock construction is worth investigating . . . today. Write for details on your specific requirements. Our engineering staff will gladly assist you in adapting Met-L-Wood versatility to your needs.



MET-L-WOOD CORPORATION

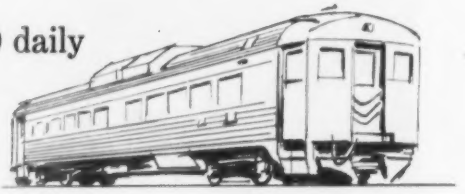
6755 West 65th Street, Chicago 38, Illinois

MET-L-WOOD · *STRONG... LIGHT... Smooth Finish... Sound Deadening... Fire-Resisting... Insulating*

Follow-Up Report on the New Haven's RDCs

A little more than a year ago we published an advertisement telling about the New Haven's experience with RDC. Since then, the fleet has expanded to forty cars. Here are some of the things they've done.

With RDCs they have added 130 daily schedules.



They are credited with increasing the annual traffic in and out of South Station by more than three quarters of a million passengers.

They contributed substantially to the New Haven's overall increase of 3% in the number of passengers carried.

On the 72 mile New London, Conn.-Worcester, Mass., branch, where passenger service had been discontinued for twenty-eight years, RDCs carried 82,000 passengers the first year service was resumed.

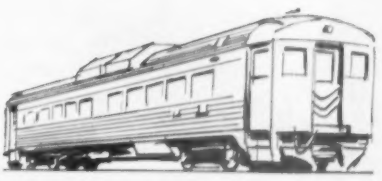
They brought well-patronized passenger service back to the Old Colony Line, and particularly to Cape Cod.

With the inadequacy of today's highways and the congestion of city streets, this record emphasizes that, when you provide fine equipment, frequent service and attractive fares, people prefer the train.

Then there's something about RDC you couldn't predict and you can't measure. You might call it employee attitude. Here's an example. There was no train from Springfield or Hartford to connect at New Haven with the Florida-bound "Vacationer". But a New Haven employee discovered an RDC could make the connection during a layover period, and also pick up passengers from a train from New York. He suggested it. RDC is doing it, and building long-haul business.

RDC is making railroad people proud. It is making the public think in terms of rail travel. That's why RDC is earning profits.

The Budd Company, Philadelphia 15.



Budd

RDC Brings Them Back To The Rails

Our Forefathers believed in it. And lived it. And fought and died to foster it.

They wrote it, too — in the Declaration of Independence . . . that all who followed in their footsteps would never forget these words . . .

> "With a firm reliance on the Protection of Divine Providence, we mutually pledge to each other our Lives, our Fortunes and our Sacred Honor."

These were words shaped by men who faced the future with a confidence born of unshakable Faith in their Fellow Men.

Today — no less than long ago — we must seek the strength such Faith in our Fellow Men will yield.

We must pledge to each other "our Lives, our Fortunes and our Sacred Honor" . . . in working to revive the spirit of brotherhood upon which the foundation of our great nation rests.

We must renew our faith in each other for upon this faith rests our best hope of peace and security.

T&P **TEXAS AND PACIFIC RAILWAY**

Write today for a copy of the article, "Our Four Great Faiths", and for reprints of this advertisement. Mail request to: J. B. Shores, Director, Employe-Public Relations, Texas and Pacific Railway, Dallas, Texas. No charge, of course.

Number Five of a Series

NYC RENT BILLS

(Continued from page 68)

readily ages the individual items. If it is desired, cards can be sorted to produce a statement indicating detail and total of items outstanding 30 days, 60 days, etc. For advance payments, cards are punched for cancellations and other journal entries. After a register and distribution run, those cards affecting the accounts receivable are matched, withdrawn, and filed.

Proofs by Totals

Because the rental bills are not entered on, or compared with, the basic lease record, a system of proofs by totals has been devised, to ensure accuracy of total billing. When the master cards were initially prepared, a control or predetermined total for each file-sort group was obtained. Thereafter, all additions to or deletions from the master card file during the month are held out until just prior to preparing the rental bills for the ensuing month. These cards are then sorted by file-sort number and run. The total additions and deletions, by group, are then added to, or subtracted from, the existing control or predetermined totals. Thus, totals of bills, bill registers, and distribution runs are progressively compared with the predetermined totals, to ensure that all bills properly due were prepared.

Master property cards provide space to indicate the termination dates of leases, in order to permit a run of these cards through a collator periodically, segregating the leases subject to renewal or expiration within the next month or two. This enables us to communicate with the leasing office, with a view to withholding or releasing bills. These data are not shown punched in Fig. 2, and the assigned spaces on the reproduced accounts receivable cards are used for the gang-punching of the payment date.

Other Rents

The procedures described apply to nearly all our rental billings. Because of individual circumstances, however, there are some few billings not completely adaptable to the new system; e.g., rents based wholly or partly on the revenues or earnings of the lessee. Ordinarily the lessee's statement of revenues or earnings for the period closed is accompanied by his payment. Another variation is the so-called "blanket bill," in which many small rental charges, all due from one lessee, are consolidated into one bill.

These and other minor varieties of bills are handled substantially in the same manner as the miscellaneous tax and utilities bills described earlier.

Under the new procedure, the typing of recurring rental bills, and of all registers, tracers, and cash sheets is a thing of the past on the New York Central. The separate accumulating of distribution, as well as all posting in the accounts receivable subledger, also has been eliminated. This results in substantial accounting economies. The I.B.M. accounting machine prepares the rental bills at a rate of about 1,000 per hour, saving days of tedious typing, numbering, registering, adding, etc.

Benchmarks and Yardsticks

THE MANAGEMENT OF A BUSINESS has many duties—but none more imperative than that of selecting and training its successors. There have been many seemingly successful executives who have neglected this duty—refusing to face the inevitability of their own disappearance, or perhaps not caring much about what would happen thereafter. There have been other managers whose own operations, perhaps, were not brilliant, but who took pains to assure an able succession.

Recognition is rapidly developing of the fact that proficiency in managing one department of a business does not, of itself, prove that the departmental manager will automatically become a good manager of the business as a whole. The activity of the chief executive has to encompass *all departments*, and great proficiency and interest in one department may give him a one-sidedness which will not be good for the business as a whole.

A number of railroads—recognizing the need for giving departmental men a "lift" out of departmental concerns, to enable them to see the business as a whole in its true perspective—have taken to providing schooling for their officers with this goal in mind. A number of colleges have provided courses of instruction of one month to three months, designed for business leaders. Perhaps the oldest of these programs and the one so far attended by the greatest number of near-top railroad officers is the three-months Advanced Management Program, offered each fall and spring at the Harvard Business School.

This school has, just recently, added still another program for business men—this one of 16 months' duration, which provides the students with the entire course of instruction given to the school's regular students. Of 76 students presently enrolled in this longer program, one is a railroad man (from the Frisco).

In this longer course there are 15 students enrolled from the Westinghouse Electric Company—which would indicate a pretty large monetary investment by the company in these individuals. It is significant that all but one of the 15 from Westinghouse Electric are already graduate engineers and all have had at least several years' experience in the service of the company.

It would appear that this great company believes that—in a candidate for managerial responsibilities—something more than a sound technical education and something more than departmental experience is required. This "something," the company apparently believes, can be imparted by the kind of education provided at a good school of business administration. Quite likely there are other ways of acquiring this "something" besides going to a school to get it. But what ways? J.G.L.

Rates & Fares

(Continued from page 16)

to $2.66 per ton to destinations in the Wheeling and Steubenville areas, and $2.71 to destinations in the Youngstown area. The new Philadelphia rates were published by the Pennsylvania.

The disapproved proposal to extend the parity to New York and Boston was embodied in tariffs filed by the New York Central and the Erie. Also involved in the case (I. & S. No. 6074) were Baltimore & Ohio and Western Maryland tariffs which proposed to cut the Baltimore rates and thus keep them 20 cents below those through the other ports; and PRR tariffs which proposed to maintain parity by meeting that cut. All of these were condemned by the commission.

Small Shipments Case Discontinued by I.C.C.

The Interstate Commerce Commission has discontinued its investigation of charges on small shipments by railroad and by motor carriers.

The inquiry had been under way for about six years in two separately-docketed proceedings. The railroad phase was No. 29556 and the truck case was No. MC-C-543.

The discontinuance order noted that such action had been requested by several interested parties. These included carriers and the National Industrial Traffic League. The commission's order said:

"The pertinency of the arguments in opposition to the prescription at this time of any new pattern or system of rates and charges on this traffic, and in support of the discontinuance of the proceedings, has been accentuated by a succession of cost inflations and rate increases which started after the beginning of these investigations. The changes which have occurred in the cost picture, as well as the pattern of rates, have made it impossible to establish a base upon which to predicate findings with respect to rates on this class of traffic.

"While interest has been stimulated by these investigations in the problem of small-shipment transportation, no constructive purpose can be attained by undertaking to reach any definite conclusions from the record or by supplementing the present record through additional hearings."

Abandonments

Authorizations

ERIE.—To abandon an 11.1-mile segment of its original main line, together with a 6.8-mile siding, between Howells Junction, N. Y., and Graham. The Erie has another lower-grade line paralleling this segment, and Division 4 noted that "one line will serve adequately" in this territory. Part of the line to be abandoned will be converted to a spur track for freight service to industries at Howells and Otisville.

HUNTINGDON & BROAD TOP MOUNTAIN.—To abandon its entire line, approximately 44 miles, from Huntingdon, Pa., to Mt. Dallas. Four branch lines, totaling 10.8 miles, also will be abandoned; and the road will discontinue operations over an additional 8-mile segment of Pennsylvania trackage between Mt. Dallas and Bedford. There was substantial local opposition to the abandonment proposal. Division 4 noted the road's "consistently bad" earnings record, however, and concluded that traffic in prospect "would fall far short" of paying normal operating expenses and bondholder claims. The H&BT has been in receivership since 1949.

KENTUCKY & TENNESSEE.—To abandon a 2.4-mile segment of line, from Oz, Ky., to Cooperative. Coal mines served by the line have been abandoned.

LOUISVILLE & NASHVILLE.—To abandon a 5.7-mile segment of branch line between Red Gap Junction, Ala., and Hedona.

MISSOURI PACIFIC.—To abandon a segment of branch line from Trippe Junction, Ark., to Arkansas City, 8.1 miles.

NACOGDOCHES & SOUTHEASTERN.—To abandon its entire line, approximately 1.9 miles, together with yard tracks and sidings totaling 2.1 miles, at Nacogdoches, Tex. The Texas & New Orleans will take over a portion of the line and provide service at industries formerly served by the N&S.

NATIONAL COAL RAILWAY COMPANY.—To abandon its entire line, 8.7 miles, from Darrah, Utah, to Union. The property has been operated under lease by the Utah Railway Company. Operations over the past three years resulted in an average loss of "at least $20,000 a year," Division 4 said.

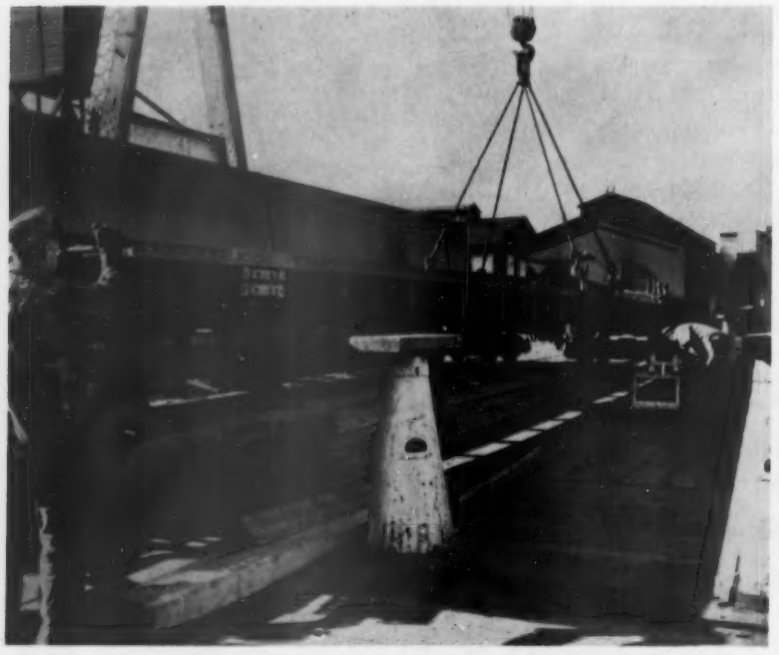
NEW YORK CENTRAL.—To abandon a 4.4-mile segment of branch line from Dillonvale, Ohio, to Smithfield. There have been no operations over the line since 1947, Division 4 said.

ONEIDA & WESTERN.—To abandon its entire line, 37.8 miles, from Oneida, Tenn., to Jamestown. Operation of the property has resulted in a "substantial loss" every year but one since 1946, Division 4 said.

OREGON SHORT LINE RAILROAD (Union Pacific).—To abandon 4.7 miles of branch line trackage in Cache county, Utah. The UP has operated the segment under lease since 1936.

Application

CHICAGO NORTH SHORE & MILWAUKEE.—To abandon most of its so-called "Shore Line" route north of Chicago. The line extends from 10th street in Waukegan, Ill., to Roosevelt road in Chicago, approximately 37.4 miles. Of the trackage involved, about 16 miles of elevated line is owned by the Chicago Transit Authority. Of the 21.4 miles owned by the North Shore, about half would be completely abandoned, and the remainder retained to provide freight service to Great Lakes Naval Training Station, Fort Sheridan, and local industries. The road told the I.C.C. in its application that the "Shore Line" has provided "frequent stop, slow speed, high cost" passenger service. Losses have been "so substantial and so continuous" that the road's resources are being depleted.



UNION PACIFIC SHOPS AT DENVER recently completed 100 65-ft. mill-type gondola cars, turning them out at the rate of three cars a day and 87 man-hours per car. First step in the work, as shown above, was placing the underframe on the trucks. Since the end of World War II the same shops also have built 500 new flat cars and 500 new stock cars.

Financial

Liberalized Mo-Pac Plan Is Presented to I.C.C.

A reorganization plan which would eventually lodge control of the Missouri Pacific system in the hands of present preferred stockholders has been recommended by two staff members of the I.C.C.

This latest recommendation modifies a reorganization plan approved by the I.C.C. in 1949. The new plan still is subject to approval by the commission, and, after that, by the district court at St. Louis, Mo., where the reorganization case is pending.

Roger T. Boyden, assistant director of the I.C.C.'s Bureau of Finance, and Examiner Homer H. Kirby joined in writing the new plan. They recommended that capitalization of the MP system be fixed at $809,764,772.

Hope for Common Stock—In addition to taking care of the preferred

stock, the new plan holds out some hope to the old MP common stock. In previous plans the I.C.C. has found this stock to be without value. Now, depending upon future earnings, holders of the old common could qualify for shares of new Class B common.

Treatment accorded holders of the old preferred stock would leave them "whole"—i.e., they would receive new Class A common stock at the rate of one share for each $100 of claim, including accumulated dividends.

These new common stockholders would not, however, emerge in immediate control of the MP. Boyden and Kirby recommended that the method for electing the initial board of directors, as set out in the 1949 plan, be left intact.

Under that plan, the various bondholding groups would elect at least 13 members of the 15-man board. These first board members would serve staggered terms, some for as long as three years.

Effective date suggested for the new reorganization plan is January 1, 1955. The plan contemplates annual charges, fixed and contingent, of $27,851,006.

Capitalization of $809,764,722 recommended in the plan compares with $612,000,000 provided in the commission's 1949 plan. The change reflects increased equipment obligations, the issuance of more first mortgage bonds and more common stock.

Under the Bowden-Kirby proposal, equipment obligations of $67,588,751 would not be disturbed. First mortgage bonds—Series A, B and C—would total approximately $307.6 million. Series A and B general mortgage income bonds would be issued in the total amount of $138.9 million. New preferred stock would contribute another $93.8 million to the capitalization, and Class A common would add $201.8 million.

The new first mortgage bonds would carry interest at 4¼ per cent and the income bonds at 4¾ per cent. The preferred stock dividend would be $5 a share, and each share of Class A common would be entitled to $5 a year before payment of any dividend on Class B common.

Aside from distributing new bonds and stocks among creditors and shareholders, the new plan calls for cash payments of $70,231,220 in partial settlement of claims.

State, Court "Freeze" Aurora-Elgin Road Funds

Proceeds from sale of three miles of Chicago, Aurora & Elgin right of way (*Railway Age*, February 1, page 28), have been "frozen," in an unusual action by the Illinois Commerce Commission. The commission's action was followed quickly by an injunction issued by Superior Court Judge Frank M. Padden, which restrains the CA&E from disposing of recent property sale proceeds. Both actions were sought by the West Suburban Transportation Council, a commuter organization which seeks restoration of CA&E train service into the Chicago Loop district. The road has filed notice of appeal to the court action.

George R. Perrine, commission chairman, has told officers of the railroad that the more than $3.1 million received from sale of right of way and tracks to the state, to Cook county, and to the Chicago Transit Authority in connection with a super highway-rapid transit project, must not be disposed of without commission approval. The action followed a request of the commuter group that the money be impounded to assure the road's reestablishing direct service to the Chicago loop district when the highway project is completed. As an interim measure, during construction of the highway-transit project, CA&E trains are terminating in Forest Park, Ill., where passengers transfer to CTA rapid transit trains to complete their journey.

Early in February, the Illinois body authorized issuance of 28,000 shares of CA&E common stock for sale to its chairman, president, vice-president and secretary-treasurer at $6 a share. The commuter group, in seeking a ban on use of the sale proceeds for a stock split or dividend, point out that the proceeds, if distributed, would amount to more than $6 a share.

Augusta, Ga., Union Station.—*Joint Use.*—The Atlantic Coast Line, the Charleston & Western Carolina, the Georgia and the Southern have received I.C.C. authority to continue their joint use of the passenger station, tracks and facilities at Augusta, Ga. The roads have used the station under an agreement dating from 1903. A new agreement has been executed to continue this operating arrangement until April 1, 1980. Division 4 said the "financial consideration" remains unchanged.

Bonhomie & Hattiesburg Southern.—*Control.* — Division 4 of the I.C.C. has authorized the owners of the 44-mile Fernwood, Columbia & Gulf to acquire control of the 26-mile B&HS (*Railway Age*, November 30, 1953, page 78). The Tatum Lumber Company, which owns the B&HS, has agreed to sell the property for $200,000. The new owners will attempt to increase traffic on the B&HS through betterment of service, installation of convenient terminal tracks and other improvements. The Fernwood and the B&HS are both located in Mississippi, approximately 30 miles apart.

Chesapeake & Ohio. — *Trackage Rights.*—The C&O has requested I.C.C. authority to acquire trackage rights over the Delaware, Lackawanna & Western between International Bridge at Black Rock, N.Y., and the Lackawanna yards at East Buffalo. C&O officers said the proposed route would reduce operated mileage and save approximately 10½ hours in interchanging cars between C&O and the Lackawanna.

Chicago Great Western.—*Trackage Rights.*—Division 4 of the I. C. C. has approved modification of an agreement under which this road uses the Burlington's passenger station and adjoining tracks at Omaha, Neb. The Great Western has used the facilities since 1929; and the effect of the latest change is to increase rental payments. The annual minimum payment will be increased to $22,400 from the present $16,000. The change is effective as of January 1, 1954.

Fort Dodge, Des Moines & Southern.—*Lease.*—Renewal of this road's lease of terminal facilities in Des Moines, Iowa, owned by the Des Moines Western, has been approved by Division 4 of the I. C. C. The new lease, effective as of August 12, 1953, extends an operating arrangement dating from 1913. Fixed rental under the new lease is $8,500 annually, as compared with $5,378 under the former agreement. The leased facilities include a freight-house, a passenger station and adjoining trackage.

Hartford & Slocomb. — *Acquisition.*—This newly organized Alabama company has been authorized by the I.C.C. to acquire from the Central of Georgia the latter's 20-mile branch from Dothan, Ala., to Hartford, which will be operated by the H&S (*Railway Age*, September 21, 1953, page 113). Sale price for the line was $75,000.

Maine Central.—*Trackage Rights.*—The I.C.C.'s Division 4 has approved an increase in the rental which this road pays for use of Atlantic & St. Lawrence (Canadian National) trackage between Groveton, N.H., and North Stratford. Rental payments will be increased from $1.65 a train-mile to $2.00, retroactive to November 1, 1951. The CNR asked for the increase because of higher labor and material costs. The MC has used this 12.7 mile segment since 1948 (*Railway Age*, September 21, 1953, page 113).

New York Central. — *Trackage Rights.* — This road has asked the I.C.C. to approve a trackage rights agreement involving 1.6 miles of New Haven trackage at Needham, Mass. Central would obtain rights over this segment, together with spur trackage, to serve industries located in the so-called New England Industrial Center. Such industries would then be served by two line-haul carriers.

New York, Ontario & Western.—*Trustee.*—Lewis D. Freeman, former official with the Reconstruction Finance Corporation, has asked the I.C.C. to ratify his appointment as trustee of this road. Mr. Freeman was nominated by the district court on January 27 to succeed Ferdinand J. Sieghardt. The

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A. UNITED STATES RUBBER COMPANY.

Q. *What ONE wire and cable producer makes plastics?*

A. "U. S."

Q. *What is the most important part of wire and cable?*

A. The insulation.

Q. *Who is best equipped to make wire and cable with superior insulation?*

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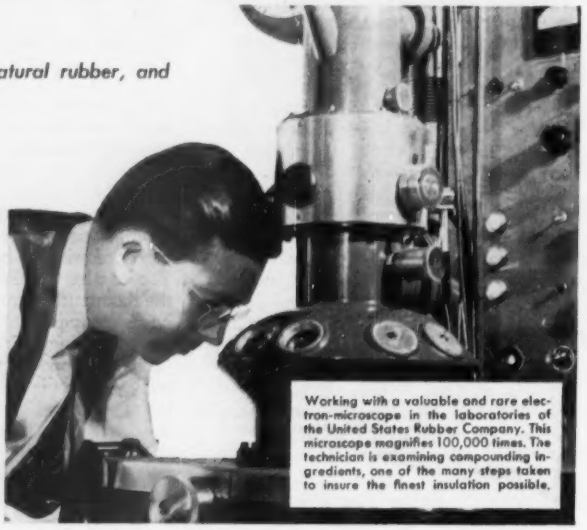

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petition filed with the I.C.C. asked also that the commission determine the "maximum limits" of compensation for Mr. Freeman.

Pennroad Corporation. — *Annual Report.* — Net income of this company, excluding net realized gain on investments, amounted to $2,683,261 in 1953, according to the annual report. Net realized gain on investments was $2,961,595. Decrease in unrealized appreciation in indicated value of investments totaled $3,578,534. On December 31, 1953, net asset value was $65,875,342, equal to $13.18 a share, compared with $68,809,019, or $13.76 a share, on December 31, 1952.

Portfolio changes during the second half of 1953 included sales of 29,674 Boston & Maine common shares, 1,900 Canada Southern common shares, escrow certificates for 3,900 Denver & Rio Grande Western five per cent convertible preferred shares, 5,000 New York, Chicago & St. Louis six per cent cumulative preferred A shares, 4,700 Northern Pacific common shares and 2,800 Western Pacific common shares. The sales eliminated these issues from Pennroad's portfolio. During the second half of last year 10,000 Seaboard Air Line common shares and escrow certificates for 23,800 D&RGW common shares (which included the stock dividend authorized late in 1953), were acquired.

Sacramento Northern. — *Trackage Rights.*—Division 4 of the I.C.C. has approved this road's plan to abandon its own line between Globe, Cal., and nearby Haggin yard, and substitute trackage operation over a parallel line of the parent Western Pacific. Crossover tracks will be constructed at an approximate cost of $15,010. The I.C.C. previously withheld approval because the SN had not applied for authority to abandon its own line between Globe and Haggin (*Railway Age*, November 16, 1953, page 125).

Southern.—*Lease.*—Modification of the lease agreement under which this road operates properties of the 254-mile Atlanta & Charlotte Air Line has been approved by Division 4 of the I.C.C. The change, effective as of January 1, 1953, will increase rental payments to the Air Line as an incentive for modernizing that property (*Railway Age*, November 16, 1953, page 125).

Texas & New Orleans.—*Lease.*—Division 4 of the I.C.C. has approved a lease agreement under which this road will continue operation of the Texas State Railroad property between Palestine, Tex., and Rusk. The T&NO has leased this 33-mile line since 1921, the most recent agreement having terminated in July 1952. The new lease, effective as of January 1, 1953, is for 10 years. It calls for rental payments of $12,000 annually, plus 50 per cent of net railway operating income in excess of $24,000 earned from operation of the line.

Investment Publications

[The surveys listed herein are for the most part prepared by financial houses for the information of their customers. Knowing that many such surveys contain valuable information, *Railway Age* lists them as a service to its readers, but assumes no responsibility for facts or opinions which they may contain bearing upon the attractiveness of specific securities.]

Fahnestock & Co., 65 Broadway, New York 6.

Kansas City Southern Railway Co. Weekly Review, January 11.

H. Hentz & Co., 60 Beaver st., New York 4.

Annual Review and Forecast. January 1954.

Kerr & Co., 135 S. LaSalle st., Chicago 3.

Canadian Pacific Railway Co. February 15, No. 1161.

Smith, Barney & Co., 14 Wall st., New York 5.

Chicago, Milwaukee, St. Paul & Pacific Railroad Company. 5% Non-Cumulative Preferred Stock. Railroad Bulletin No. 151, January 11.

Pennsylvania Railroad Company. Bonds. Railroad Bulletin No. 152, January 25.

Railroad Earnings. Railroad Bulletin No. 148, December 21.

Railroad Stock Exchange Suggestion. Railroad Bulletin No. 150, January 5.

Why the Investor Shouldn't Ignore the Rails. Railroad Bulletin No. 149, December 28.

Vilas & Hickey, 49 Wall st., New York 5.

1954 Railroad Outlook. January 4.

Securities

Illinois Central. — *Stock Split.*—IC directors have proposed a two-for-one split of both common and preferred stocks. The common would be changed from $100 par value, to no par value, and the 6 per cent non-cumulative convertible preferred from $100 par value to $50 par value.

The board has also proposed an incentive stock option plan for 100 officers and employees, with individual purchases limited to 10,000 shares and with the stipulation that the beneficiary be employed continuously for a two-year period after the plan is adopted.

Both proposals will be considered at the annual stockholders' meeting scheduled for May 19 and, ultimately, by the Interstate Commerce Commission.

Minneapolis & St. Louis.—*Stock Dividend.* — Division 4 of the I.C.C. has authorized this road to issue 200,000 shares of no-par common stock as a stock dividend. Distribution of the dividend would be on the basis of one-third share of new stock for each share now held. Actual payment still is subject to stockholder approval at the road's annual meeting.

For purposes of capitalization, the new shares will be charged against earned surplus—unappropriated, and will carry an assigned value of $25 per share (*Railway Age*, January 11, page 248).

Authorizations

GREAT NORTHERN.—To assume liability for $5,070,000 of equipment trust certificates, to finance in part 37 diesel units costing an estimated $6,356,611 (*Railway Age*, January 25, page 17). Division 4 approved sale of the certificates for 99.394, based on interest at 2¾ per cent—the bid of Salomon Bros. & Hutzler and three associates—which will make the average annual cost of the proceeds to the road approximately 2.85 per cent. The certificates, dated February 1, will mature in 30 semiannual installments of $169,000 each, beginning August 1, 1954. They were reoffered to the public at prices yielding from 1.75 to 2.9 per cent, according to maturity.

HARTFORD & SLOCOMB.—To issue 750 shares of common stock, par $100, together with promissory notes up to $25,000. Proceeds from sale of the stock will be used to purchase from the Central of Georgia a 20-mile segment extending from Dothan, Ala., to Hartford. Funds obtained from the notes will provide working capital. The H&S is a new company.

ILLINOIS CENTRAL.—To issue and sell $15,000,000 of series F consolidated mortgage bonds to provide funds for redeeming outstanding gold bonds. The latter bonds, due August 1, 1966, were outstanding in the amount of $34,743,000 on October 31, 1953. They were slated for call at 102½ as of February 1, 1954.

The I.C.C. also approved the road's plan for raising added funds to meet the February 1 call date. The road was authorized to borrow $12,000,000 for two months, and secure the short-term note by a like amount of series D consolidated mortgage bonds. These bonds will be sold April 1, and proceeds used to pay off the note.

Refunding of the outstanding gold bonds is part of the IC's long-range plan for reducing funded debt and simplifying its financial structure. Completion of the program will make the consolidated mortgage virtually a first lien on the entire IC system.

PORTLAND TERMINAL (Maine Central).—To issue and sell $1,000,000 of first mortgage gold bonds, proceeds from which will be used to pay a like amount of promissory notes due April 1, 1954. The notes were issued to provide temporary funds for 1953 capital improvements. The new bonds, due July 1, 1961, will be guaranteed by the MC. They will be sold for 97.79, with interest at 4 per cent (*Railway Age*, January 25, page 17).

Application

PITTSBURGH & WEST VIRGINIA.—To issue and sell $7,500,000 of series A first mortgage bonds, proceeds from which would be used to help retire $8,749,000 in bonds now held by the public.

Additional funds for paying off these bonds would be obtained through modification of outstanding equipment obligations. Such obligations total $3,661,207. The P&WV proposes to increase this to $4,914,000 by adding diesel units and freight cars which the road now owns "free from lien." Absence of an "after acquired property clause" in the mortgage makes this possible on the P&WV.

The new first mortgage bonds, dated March 1, 1954, would mature March 1, 1984 They would be sold by competitive bidding, with the interest rate to be set by such bids. Sinking fund payments would be payable if earned, but would be fully cumulative.

Dividends Declared

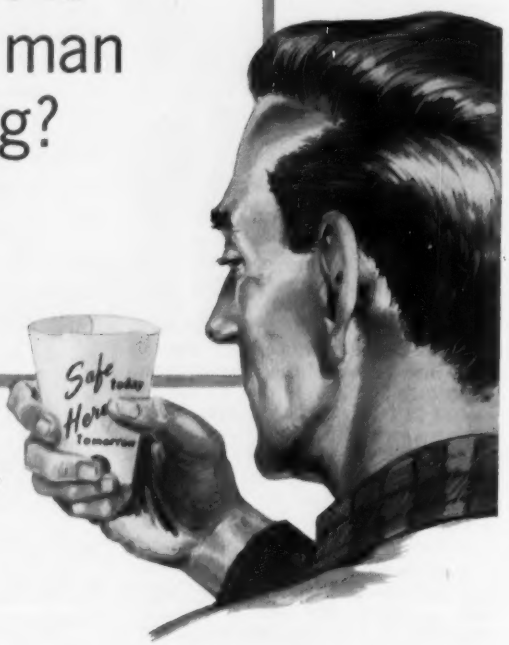
CHICAGO & NORTH WESTERN.—preferred, $3.30, payable March 5 to holders of record February 23.

CHICAGO, INDIANAPOLIS & LOUISVILLE.—Class A common, $5, payable March 12 to holders of record February 25.

CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC.—preferred A, $5, payable March 12 to holders of record February 20.

CHICAGO, ROCK ISLAND & PACIFIC.—com-

What is this man doing?



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You know how accidents affect your operating costs. Fewer accidents, lower costs. Fifty percent of all accidents are preventable. And safety messages *that get read* — says the National Safety Council — do help reduce accidents. So . . .

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15 DIVISIONS FROM COAST TO COAST

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mon, $1.25, quarterly; 5% preferred A, $1.25, quarterly; both payable March 31 to holders of record March 12.

DELAWARE & BOUND BROOK.—50¢, quarterly, payable February 20 to holders of record February 13.

ERIE & PITTSBURGH—7% guaranteed, 87½¢, quarterly, payable March 10 to holders of record February 26.

FORT WAYNE & JACKSON.—5½% preferred, $2.75, semiannual, payable March 2 to holders of record February 19.

NORFOLK SOUTHERN.—42½¢, quarterly, payable March 15 to holders of record March 1.

PHILADELPHIA, GERMANTOWN & NORRISTOWN.—$1.50, quarterly, payable March 4 to holders of record February 20.

VIRGINIAN.—62½¢, quarterly, payable March 12 to holders of record February 26.

Security Price Averages

	Feb. 16	Prev. Week	Last Year
Average price of 20 representative railway stocks	62.13	62.29	66.97
Average price of 20 representative railway bonds	94.10	94.18	94.56

Supply Trade

Robert C. Carrick has joined **Edgewater Steel Company** as service engineer, at Oakmont, Pa. He was formerly associated with **National Aluminate Corporation.**

Norman E. Bateson, associate director of the engineering design division of **Pullman-Standard Car Manufacturing Company,** has been appointed deputy director of the research and development division at Hammond, Ind.

Tom Kinney has been named traffic manager of **American Hoist & Derrick Co.,** succeeding **Clark Hook,** retired.

W. W. Mossgrove, who has been in the sales and service departments of **Industrial Brownhoist Corporation** for several years, has been appointed assistant to sales manager.

Gould-National Batteries, Inc., has extended its service station network with a new unit at 4225 North 16th street, Philadelphia, under management of **Perry Maull.**

Carl V. Scully and **Louis T. Freed,** sales engineers at the New York and Chicago district offices, respectively, of **General Railway Signal Company,** have been appointed assistant resident managers of the same offices. **Albert G. Maier,** circuit designer in the commercial engineering department has been appointed sales engineer in the New York office.

R. Paul Bunting, formerly in the purchasing department of the Seaboard Air Line, has been appointed Norfolk, Va., district representative of **Midwest Steel Corporation,** at Portsmouth, Va.

The **Graybar Electric Company** has opened a new branch at Sioux Falls, S.D., with **R. V. Jenson** as manager. The branch at Aberdeen, S.D., has been closed

National Pneumatic Company and **Holtzer-Cabot divisions** have appointed **James J. Anderson** as general sales manager He was previously sales manager for the Holtzer-Cabot Telephone Equipment division.

Jack Wright, northern district manager of **Hyster Company** on the west coast, has been appointed district manager of the northwestern district, at Chicago. **James N. Rector,** manager of the Hyster retail store in Chicago, has been transferred to Atlanta as district manager, southeast territory.

Timken Roller Bearing Company has formed a new company, **Timken Roller Bearing de Mexico,** with sales office and warehouse facilities in Mexico City. It will be under management of **A. E. Porter,** who has represented Timken in Mexico for several years.

The **Clark Equipment Company** plans to build a new plant near Benton Harbor, Mich. It will be located on a 100-acre tract, and is expected to be in operation before the end of 1954.

Containing 145,000 sq. ft., the building will be used as an assembly plant for a new line of tractor shovels and also for assembly of power shovels now made in another Benton Harbor plant. The tractor shovels (*Railway Age*, January 4, page 15) will be marketed under the "Michigan" trade name—the first new items of construction equipment developed by Clark since acquisition of the Michigan Power Shovel Company last May. Before the new plant is completed, the new products will be assembled at Clark's Buchanan, Mich., plant.

The new location of the **Vapor Heating Corporation** is at 6420 W. Howard street, Chicago.

Albert G. Karstens has been appointed national account supervisor of the steel products division of the **Acme Steel Company** at Chicago. Named as special representative—central sales is **Theron P. Schulz,** sales representative.

The **Security Locknut Corporation** has appointed **D. V. Maher & Co.,** 900 Marshall building, Cleveland 13, and **W. A. Blackford,** 9330 Thermal street, Oakland, Cal., as sales representatives in the railroad field.

OBITUARY

T. Barclay Whitson, 59, director of engineering of James G. Biddle Company, died at his home in Moylan, Pa., January 23.

George F. Hessler, 64, vice-president in charge of all sales activities, and a director and member of the executive committee of Graybar Electric Company, died in Venice, Fla., February 1.

Railway Officers

P&N, D&S, Dissolve Common Management

The common management of the Piedmont & Northern and the Durham & Southern, which has existed since July 1, 1931, was dissolved February 15, by mutual agreement. That agreement provides that the P&N will furnish the D&S accounting and traffic services while the latter is perfecting an organization to take over those duties with its own personnel.

Four common officers of the two roads—W. I. Rankin, president; L. R. Lawson, vice-president and traffic manager; C. L. Taylor, treasurer and general auditor; and E. J. Funderburk, assistant secretary — have resigned their positions with the D&S. However, Messrs. Lawson and Taylor will continue to serve the D&S until expiration of the agreement between the two roads.

Charles F. Jones, vice-president of the D&S, has been named to perform the duties of president until a new president is elected. The D&S will establish a complete organization and offices in Durham within the next several months, and will operate as it did prior to 1931, when the joint arrangement was made with the P&N.

ARKANSAS & LOUISIANA MISSOURI.—**L. L. Bennett** has been named assistant general auditor at Shreveport, La., succeeding **J. V. Willis,** whose election as secretary and treasurer was reported in *Railway Age* February 8. Mr. Willis also has been named general auditor. **J. F. Rabun** becomes freight auditor. These men also will have jurisdiction over the **Mansfield Railway & Transportation Company,** the **Nacogdoches & Southeastern** and the **Louisiana & Pine Bluff.**

BALTIMORE & OHIO.—As reported in *Railway Age* January 11,

Karl J. Wagoner

Karl J. Wagoner has been appointed chief engineer, and **Edwin F. Wright**

has been named assistant chief engineer, both at Baltimore. Mr. Wagoner was born at Davis, W.Va., December 21, 1892, and began his railroad service in August 1913 at machinist helper with the Pennsylvania. He joined the

Edwin F. Wright

B&O engineering department in June 1917 as rodman, and became assistant chief engineer in February 1946.

BESSEMER & LAKE ERIE. — **V. L. Harley,** general yardmaster at Conneaut, Ohio, has been appointed trainmaster at Albion, Pa.

CANADIAN NATIONAL. — **Benjamin Chappell,** engineer maintenance of way, Western region, has been appointed assistant chief engineer of that region, with headquarters as before at Winnipeg, succeeding **Emerson Morse,** who has retired after more than 40 years with the company. **Joseph Conrad,** district engineer for

Benjamin Chappell

British Columbia, succeeds Mr. Chappell as engineer maintenance of way at Winnipeg. **V. R. Cox,** assistant construction engineer on the recently completed Lynn Lake railway, has been named division engineer, CNR, at The Pas, Man., succeeding **M. B. Hansen,** transferred to Vancouver.

W. Sergeant, assistant engineer, operation department, Montreal, has been appointed regional transportation engineer at Toronto.

Harold G. Neale, assistant chief

Joseph Conrad

draftsman, has been appointed chief car inspector.

R. H. Davidson has been appointed assistant general freight agent (rates) for the Western region, at Winnipeg, succeeding the late **L. H. Roberts.**

Gordon F. Johnston, Australian traffic manager at Sydney, Australia, will retire February 28. **Douglas R. Crawford,** general agent at Melbourne, will succeed Mr. Johnston as Australian traffic manager at Sydney.

CANADIAN PACIFIC. — **J. L. Hall,** assistant superintendent at Calgary, Alta., has been appointed acting superintendent at Medicine Hat, succeeding **R. F. P. Bowman,** who has gone to the **Pacific Great Eastern** in British Columbia as manager. **George Russell,** who has been acting assistant superintendent of the Medicine Hat division since November 1953,

S. L. Kelsall

has been confirmed as assistant superintendent of the division.

S. L. Kelsall, district storekeeper for the Manitoba and Saskatchewan districts at Winnipeg, has been appointed general storekeeper for the Prairie and Pacific regions, succeeding **R. G. Bennett,** who has retired on pension after 42 years of service. **Hugh Carney,** storekeeper at Weston shop, succeeds Mr. Kelsall as district storekeeper.

R. B. Winship, mechanical engineer (car) at Montreal, has retired after 34 years' service. **Charles Hassall,** engineer of car equipment, has taken over Mr. Winship's duties but retains his old title. **W. F. Sinclair** has been appointed to the new position of engineer of motive power. The old positions of engineer of diesel equipment, held by Mr. Sinclair, and mechanical engineer (locomotive) have been abolished. **A. E. McGruer,** general electrical engineer, has been appointed engineer of electrical equipment, and his former title has been eliminated.

L. W. Fogg, acting assistant superintendent, Portage division, has been named assistant superintendent of that division, with headquarters at before at Winnipeg.

N. F. Cowie, division freight agent at Calgary, Alta., has been promoted to general freight agent at Vancouver, succeeding **V. R. Duncan,** whose promotion to assistant freight traffic manager, Pacific region, was reported in *Railway Age* January 11. **T. H. Johnson,** district freight agent at Edmonton, Alta., has been promoted to division freight agent at Regina, Sask., succeeding **E. E. Bartlam,** who replaces Mr. Cowie at Calgary. **Harry Whitely,** chief clerk to freight traffic manager at Winnipeg, has been promoted to district freight agent at Nelson, B.C., succeeding **J. A. MacDonell,** who replaces Mr. Johnson at Edmonton.

Jean E. Belanger, assistant chief of the investigation department, has been appointed deputy chief of that department, with headquarters as before at Montreal. **J. R. Johnston,** inspector at Vancouver, has been named assistant chief of the investigation department at Winnipeg, succeeding **Benedict Bouzan,** promoted (*Railway Age*, January 11).

W. R. McCracken, acting assistant superintendent at North Bend, B.C., has been appointed assistant superintendent at Medicine Hat, succeeding **Alexander Forbes,** who retired December 31, 1953, after 42 years of railroading. **J. V. Forrest,** assistant superintendent at Winnipeg, has been appointed superintendent at Brandon, Man., succeeding **Trevor Wood,** transferred to Fort William, Man., replacing the late **Frank Trimble. Edward Finney,** general yardmaster at Winnipeg, succeeds Mr. Forrest as assistant superintendent, Winnipeg terminals.

H. W. Dunn, assistant manager of the department of insurance and fire protection, has been appointed manager of that department at Montreal, succeeding **Frank Palin,** who has retired after more than 43 years' service. **E. H. Kent,** chief clerk, succeeds Mr. Dunn as assistant manager.

(Continued on page 86)

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LOW CONDUCTIVITY... Thoroughly washed and sterilized, all-hair heat barrier. Rated conductivity —.25 btu per square foot, per hour, per degree F., per inch thick.

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When you call for STREAMLITE HAIRINSUL to be installed in new refrigerator cars you are making a wise, one-time investment because . . . it lasts the life of the car!

Yes . . . and you are actually adding life to valuable shipments of perishables through their safeguarded protection against sudden and extreme temperature changes with STREAMLITE HAIRINSUL . . . the dependable all-hair insulation that weighs 40% less . . . and does so much more!

More Reasons why refrigerator car builders prefer STREAMLITE HAIRINSUL are listed at left. There are many more! Write for complete data.

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ILLINOIS CENTRAL RAILROAD. Close-up of the tracer actuated profiling tool cutting new contour on a wheel on the NILES 52" car wheel lathe in the IC's Burnside Shops (Chicago). Note the depth of cut, 24 tapes.

NILES LATHE

In these outstanding wheel shops, Niles 52" hydraulic car wheel lathe can turn set in less than 20 minutes

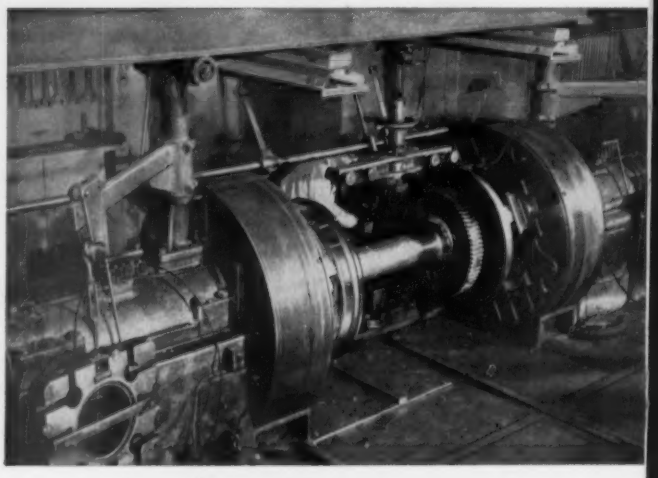
"From floor-to-floor in less than twenty minutes, compared with old, slow lathe's hour and 20 minutes!" is a typical report from these users of the Niles 52" hydraulic car wheel lathe with profiling attachment.

Designed for heaviest duty with a wide range of spindle speeds up to 25 rpm, this lathe can be used with either tungsten carbide or high speed steel tools.

Extra Wheel Mileage

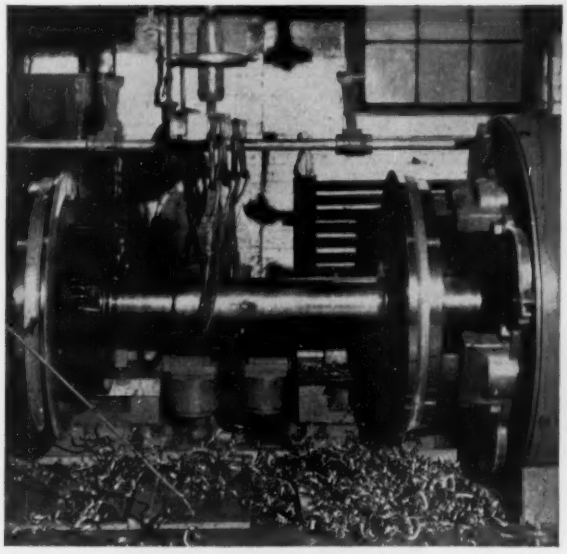
By switching to cutting with carbides, these shops are also getting thousands of extra miles of wear from many wheel sets. That is due to the carbide tool's slicing right through spots of excessive hardness, while the high speed steel tool must cut below the spot into softer metal, taking off more surface than required by the depth of the concavity.

If your wheel shops are still re-turning wheels the slow, old-fashioned way, consider carefully how much a modern Niles wheel lathe will save you in manhours, wheel inventory and replacement of wheels.

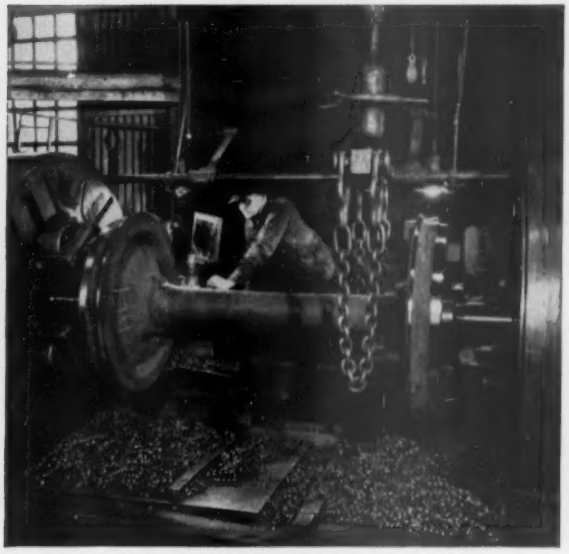


UNION PACIFIC RAILROAD. When this Niles Wheel lathe tungsten-carbide tipped tools and profiling attachment was installed in the UP's Los Angeles Shop, wheel re-turning time was cut to about 20 minutes.

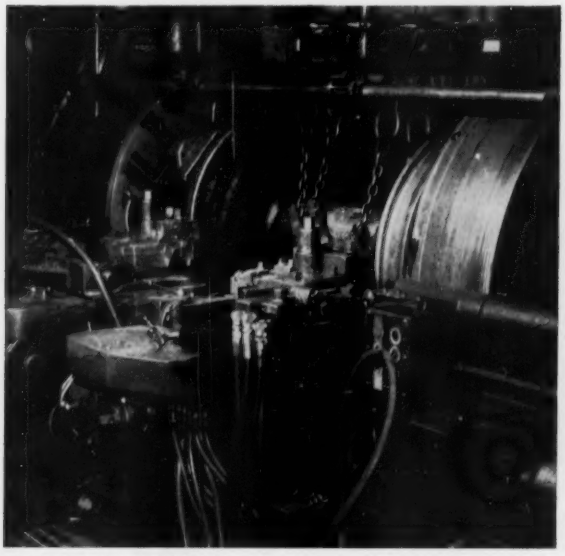
RE-TURNS WHEELS UP TO 300% FASTER



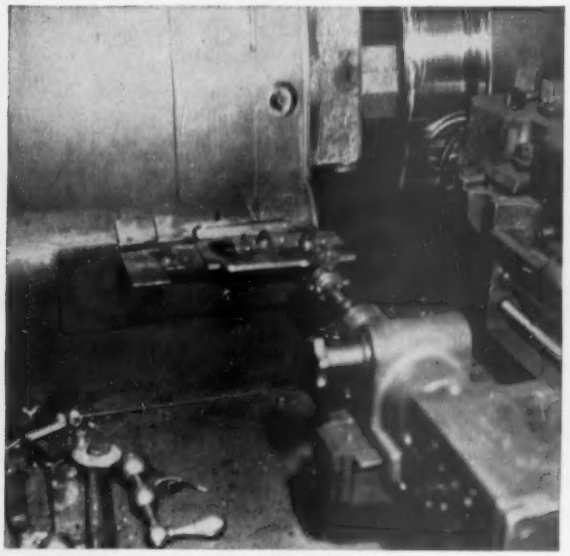
MISSOURI PACIFIC RAILROAD. Wheel set in NILES 52″ car wheel lathe being profiled. (In Missouri Pacific's North Little Rock Shop.)



THE PENNSYLVANIA RAILROAD. Above photo was taken from the rear of the NILES 52″ car wheel lathe in the PRR's Altoona Shops. Flanging and profiling tools are at work.



SOUTHERN RAILWAY. Profiling and flanging tools at work on both wheels of a set on the NILES 52″ car wheel lathe at the Southern's Chattanooga Shops.



NORFOLK & WESTERN RAILWAY. Close-up view of the cutting of new profile with the NILES 52″ hydraulic car wheel lathe in the N&W's Roanoke Shops. Note tracer tip "climbing" the crest of the profile template.

Write: To find how you can cut *your* wheel shop costs with the Niles 52″ hydraulic car wheel lathe and other outstanding Niles machine tools, write now to Hamilton Division, Baldwin-Lima-Hamilton Corporation, Hamilton, Ohio.

BALDWIN-LIMA-HAMILTON

Hamilton Division • Hamilton, Ohio

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K.O. YOUR WEED PROBLEMS

TCA-CHLORATE Liquid Concentrate in Tank Car Lots for Spray Train Application.

General Chemical's "Rite-o-way" Brand TCA-CHLORATE is made especially for large-scale railroad weed control operations. This special high-strength formulation of sodium trichloroacetate and sodium chlorate is an outstanding all-purpose weed killer used on leading railroads. General Chemical's Railroad Weed Control Service will furnish you with a complete professionally-planned control program for using "Rite-o-way" TCA-CHLORATE and, if you desire, trained technical crews to do the spraying.

GENERAL CHEMICAL WEED CONTROL

"STA-KLOR" Spray Powder in 100-lb. Drums for Dry or Wet Application by your regular labor crews.

For those nuisance jobs of weed killing in terminal yards, rip tracks, storage yards, station curbs and driveways, switches, ladder tracks and many more. "STA-KLOR" is the same powerful herbicide as "Rite-o-way" TCA-CHLORATE, a high-strength formulation of sodium trichloroacetate and sodium chlorate. A convenient spray powder—it can be used both as a dust and a spray. Handy 100-lb. drums; can be applied by your regular labor crews.

Handle the big job with "Rite-o-way" TCA-CHLORATE, the nuisance jobs with "Rite-o-way" "STA-KLOR." They perform equally well because they are the same high-power chemical formulation—designed to give rapid kill to surface vegetation and underground root runners, and to suppress seed germination for months at a time.

For further information write to . . .

Weed Killer Department

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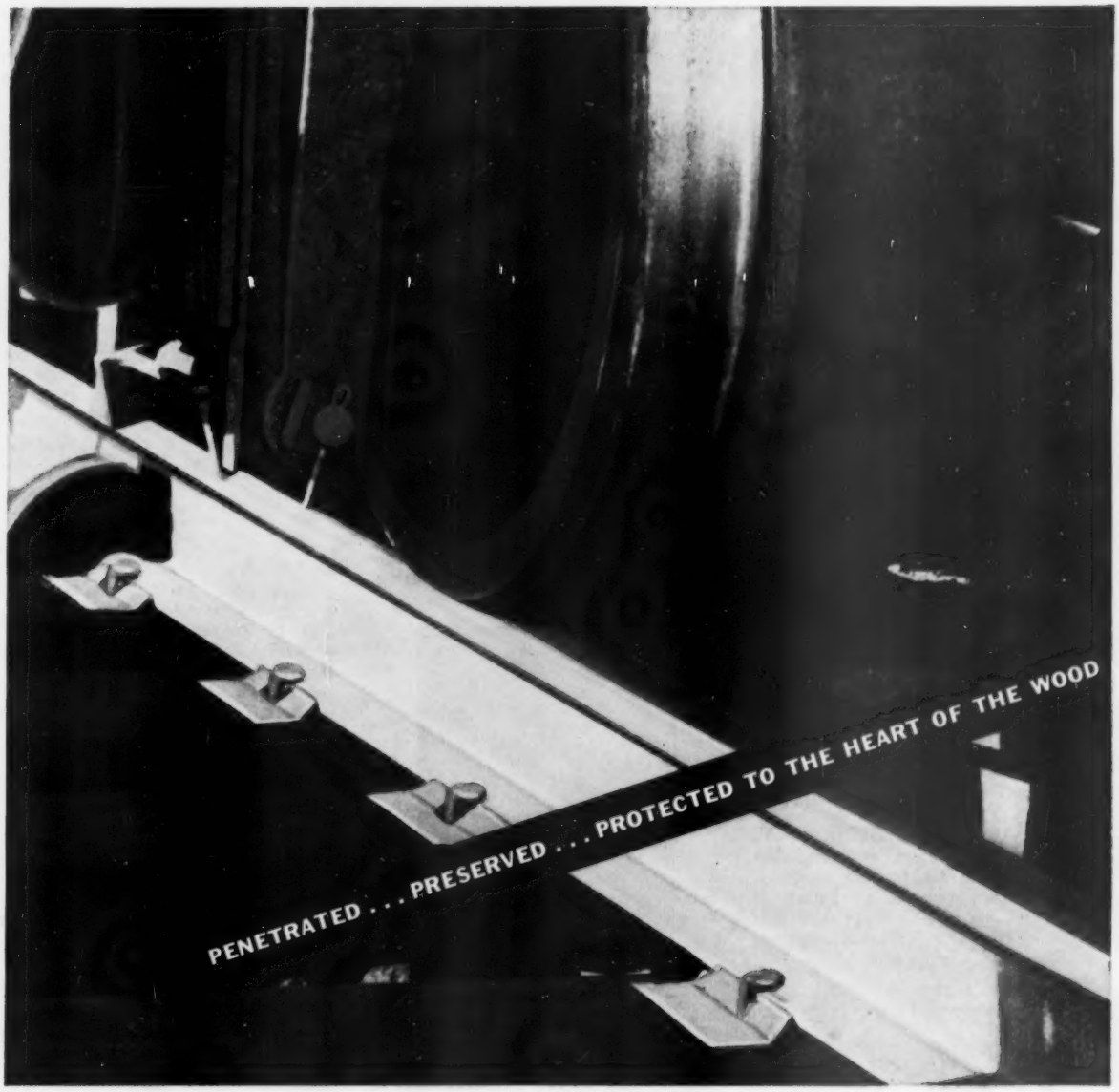

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Ties, poles and piling are a BIG investment. They deserve the protection of Coal-Tar Creosote—the wood preservative that has been proved in the test of time. In use for over 100 years. You don't take risks when you specify Barrett—time-tested leader in the field of Coal-Tar wood preservatives.

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100 YEARS OF EXPERIENCE

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(Continued from page 80)

C. H. Wells, chief clerk in the freight claim department at Winnipeg, has been promoted to freight claim agent there for the Manitoba and Saskatchewan districts, succeeding **W. J. Murphy,** who has been transferred to Toronto to replace **E. D. Campbell,** retired.

Owen Gleason, superintendent, sleeping, dining and parlor car department at Moose Jaw, Sask., has been transferred to Calgary, succeeding **W. A. Macfarlane,** who will retire on pension February 28, after 47 years service in that department. **J. W. Moffat,** assistant superintendent of the department at Toronto, has been named superintendent at Moose Jaw, succeeding Mr. Gleason.

CANADIAN PACIFIC EXPRESS. —**E. A. Bottrill,** general agent at Toronto, retired on pension December 31, 1953, after more than 43 years of service. He has been succeeded by **K. H. Newinger,** who has taken over the post under the new title of superintendent, Toronto division. **G. H. Cowan,** acting general agent at Toronto, has been named assistant superintendent, Toronto division. **W. T. Beaven,** superintendent, Pacific division, at Vancouver, succeeds Mr. Newinger as superintendent, Western division, at Winnipeg. **R. R. Taylor,** assistant superintendent, Pacific division, at Vancouver, has been named superintendent of that division.

CHESAPEAKE & OHIO. — V. H. Doyle, valuation engineer, has been appointed assistant to comptroller, with headquarters as before at Richmond, Va. **O. C. Sherman** succeeds Mr. Doyle as valuation engineer at Richmond.

CHESAPEAKE & OHIO.—Thomas J. Deegan, Jr., vice-president (passenger traffic and public relations) of the Chesapeake & Ohio, and a director of that company, has resigned from those positions to become vice-president and a director of Alleghany Corporation. With Alleghany, Mr. Deegan succeeds J. J. Anzalone, who continues as treasurer of the C&O.

COTTON BELT.—U. C. Brown, title attorney and assistant tax commissioner at St. Louis, has been appointed tax commissioner there, succeeding the late **W. B. Prott.**

CUBA — CUBA NORTHERN — CONSOLIDATED OF CUBA. — Gustavo Pellon has been elected president of the Cuba and the Cuba Northern, and reelected president of the Consolidated. Mr. Pellon has become chief executive officer following approval by stockholders of amendments to by-laws making the principal executive officer the president, rather than the chairman of the board of directors, who previously performed that function.

DETROIT, TOLEDO & IRONTON.—As reported in *Railway Age* January 4, **E. H. McCauley** has been elected to the newly created position of comptroller at Dearborn, Mich. Mr. McCauley was born December 25, 1894, and is a graduate of the Detroit College of Law. After Army service during

E. H. McCauley

World War I, he joined the Ford Motor Company and was transferred to the DT&I in 1922, when the road was controlled by the Ford family. Mr. McCauley was appointed general auditor in 1927 and held that position until his recent election as comptroller.

FORT WORTH & DENVER. — Ross H. Dinkins has been appointed district passenger agent at Fort Worth. **Robert L. Styers,** passenger agent at Wichita Falls, has been appointed district passenger agent at Dallas.

FRISCO.—W. L. O'Toole, general merchandise agent at St. Louis, has been appointed merchandise traffic manager at that point, and has been succeeded by **J. J. Swehla,** chief clerk to vice president — traffic there.

Named as supervisor of stations at Springfield, Mo., is **A. R. Lindeman,** general warehouse foreman at Kansas City. **L. B. Reed,** assistant car accountant, has been advanced to car accountant at Springfield and has been succeeded by **V. R. McKenna.**

Mr. O'Toole joined the Frisco in 1916 as crew caller. After holding a

W. L. O'Toole

number of clerical positions, he subsequently became service agent, assistant general agent, special representative and general merchandise agent.

H. C. Bitner, terminal trainmaster at Memphis, has been named assistant superintendent at Tulsa, Okla. His successor is **R. P. Shoaf,** safety supervisor at Tulsa, who in turn has been replaced by **T. F. Norvell,** engine foreman at St. Louis. **R. E. Metzger,** junior engineer, has been appointed to the newly created position of assistant engineer—special assignments in the office of vice-president—operations.

B. G. Gamble, master mechanic at Amory, Miss., retired February 1 and has been succeeded by **G. M. Jessee,** who transfers from Kansas City. Mr. Jessee's successor is **J. A. Reed, Jr.,** diesel supervisor. Named as mechanical inspector at Springfield, Mo., is **W. D. Vogts,** test engineer at that point.

V. C. White, assistant superintendent at Chaffee, Mo., has been transferred to Amory, Miss.

GREAT NORTHERN. — M. J. Welsh, special representative — operating department, at St. Paul, retired January 31.

GULF, MOBILE & OHIO.—C. E. Lanham has been appointed general superintendent of transportation at Mobile, Ala. The position of superintendent of transportation, formerly held by Mr. Lanham, has been abolished.

ILLINOIS TERMINAL.—Harold G. Powell, formerly vice-president and treasurer and more recently consultant, has retired.

INDIANA HARBOR BELT. — A. R. Terrill, trainmaster at Gibson, Ind., has been promoted to assistant superintendent.

JERSEY CENTRAL. — A. E. Bjorkner, assistant superintendent of

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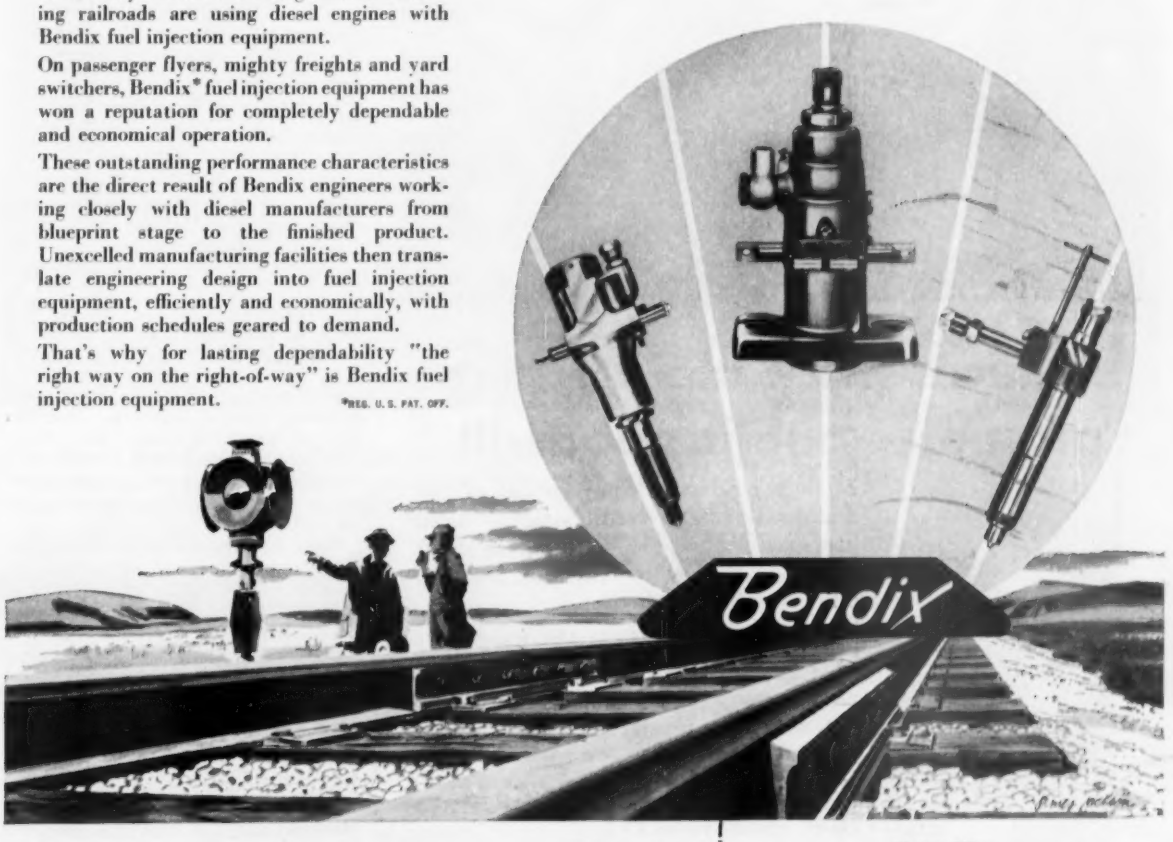

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BLAW-KNOX EQUIPMENT DIVISION
GRATING DEPARTMENT

the Central division at Jersey City, N.J., has been appointed assistant to president at New York.

William J. Carroll, superintendent of the Pennsylvania division at Allentown, has been transferred to the Southern division at Long Branch, N.J., succeeding **Michael H. Strollo,** who has retired after 53 years' service. Mr. Carroll also succeeds Mr. Strollo as superintendent of the New York & Long Branch (owned jointly by the CNJ and the Pennsylvania). **Charles B. Schlegel,** assistant superintendent of the Pennsylvania division at Allentown, succeeds Mr. Carroll as superintendent, and his former post has been abolished. **Alvin H. Lewis,** passenger trainmaster at Jersey City, succeeds Mr. Bjorkner as assistant superintendent of the Central division and **Elmer Mingle,** assistant passenger trainmaster, succeeds Mr. Lewis as passenger trainmaster.

LONG ISLAND. — Chester E. Boyle has been appointed assistant treasurer at Jamaica, N.Y.

John J. Gaherin, assistant manager personnel, has been appointed manager personnel at Jamaica, N.Y., succeeding **Thomas R. Colfer. William A. Both** has been appointed supervisor personnel.

MAINE CENTRAL. — Harry W. Stetson, general supervisor maintenance of way at Portland, has retired after 52 years of service, and **Clinton A. Plumly,** principal assistant engineer at Portland, has retired after 44 years of service.

Fred L. Strange has been appointed superintendent car service and the position of car service agent, formerly held by Mr. Strange, has been abolished. **Leroy W. Mathews,** agent at Bangor, has been appointed general agent at Portland, succeeding **William P. Kelley,** who has retired after 47 years of service. **Alfred W. Rudman,** general agent at Rumford, has been transferred to Waterville, succeeding **Hugh Travers,** who has retired after nearly 50 years of service. **James N. Horton,** agent at Hallowell, succeeds Mr. Rudman as general agent at Rumford.

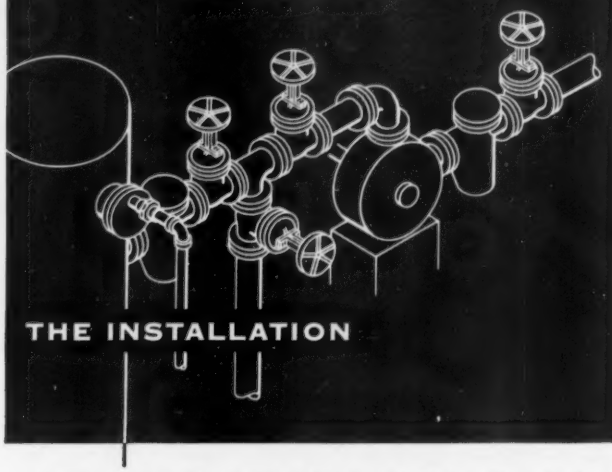
MILWAUKEE. — C. P. Cassidy, division freight and passenger agent at Mason City, Iowa, has been transferred to Des Moines, to succeed **H. H. Jacobs,** who replaces Mr. Cassidy at Mason City.

MONONGAHELA CONNECTING — ALIQUIPPA & SOUTHERN — CUYAHOGA VALLEY. — W. H. Liddle, secretary-treasurer at Pittsburgh, has been elected also vice-president.

NEW HAVEN.—John G. McGowan has been appointed assistant general freight agent at Boston, succeeding **C. R. Goldrich,** who has resigned to become tariff publishing

Valve Performance As You Planned It

...on Diesel Fueling System, for instance



THE INSTALLATION

At North End Yard, The Cincinnati Union Terminal Railroad, using Crane steel valves and fittings throughout diesel fuel oil receiving and filling system. Working pressure, 40 pounds.

VALVE SERVICE RATINGS

SUITABILITY:	Doing job as intended
FEATURES:	Exelloy seating
MAINTENANCE COST:	Zero
SERVICE LIFE:	Installed 1948 – Shows indefinite life
OPERATING RESULT:	Trouble-free fueling
AVAILABILITY:	Regular catalog item – No. 47X

THE CASE HISTORY

Not a single item of equipment was bought for this project until the terminal was convinced of its dependability and low-cost maintenance. Many similar systems were studied for the best means of assuring utmost economy of operation. The installation was made in 1948—with welded piping where practical, using Crane materials exclusively—steel fittings, check valves, and No. 47X 150-Pound steel gates.

Five years later the terminal reports: Operation of piping system entirely satisfactory; maintenance cost to date, zero. Further result: Crane valves have earned top consideration for proposed extension of system. The terminal knows the value of thrifty buying—assurance of quality always outweighs price-tag savings.

THE VALVE

150-Pound Steel Gate—with exceptional performance assured by Crane quality design—Crane pioneering in steel casting—and the high adaptability of Crane Exelloy trim for oil services. Sizes 2 to 24 in.; screwed, flanged, welding ends. See your Crane Catalog or your Crane Representative.

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agent, New England Territory Railroads. **Harold D. Hartmann,** assistant freight traffic manager, rates and divisions, has been appointed freight traffic manager, rates, divisions and tariffs, at Boston, succeeding **R. C. Gill,** who has terminated his service after 36 years with the New Haven to accept the postiion of chairman, Coal, Coke & Iron Ore Committee, Trunk Line Territory Railroads, New York.

NEW YORK CENTRAL.—Floyd S. Trudeau, district passenger agent at Chicago, has been named assistant general passenger agent at that point, succeeding **E. R. Hutton,** who retired December 31.

H. V. Steinberger has been appointed chief claim agent at Cleveland, succeeding **A. J. Lorenz,** whose transfer to New York was reported in *Railway Age* January 11.

H. C. Van Bergen has been appointed supervisor power and train operations at Syracuse, N.Y., succeeding **Sylvester H. Denison,** who has retired after 43 years' service.

Donald F. Rehl has been appointed agricultural and livestock agent at Columbus, Ohio, succeeding **Warren J. Embree,** agricultural representative and livestock agent, who retired December 31, 1953.

LeRoy H. Stecker, assistant superintendent, Hudson and Mohawk divisions, at Albany, has been named superintendent of the St. Lawrence and Adirondack divisions at Watertown, N.Y., replacing **Curtis D. Buford,**

LeRoy H. Stecker

who has been appointed superintendent of the West and Western divisions at Chicago. Mr. Bufford succeeds **Donald B. Fleming,** who has been named general superintendent of the **Pittsburgh & Lake Erie** at Pittsburgh. **R. D. Timpany,** trainmaster of the Indiana division of the **Big Four** at Indianapolis, succeeds Mr. Stecker as assistant superintendent at Albany. **J. N. Page,** trainmaster of the Indiana Harbor Belt at Blue Island, has been appointed trainmaster on the Erie (Pa.) division, NYC, succeeding **W. A. Sprunk,** who has been named assistant supervisor power and train operations at Cleveland. A biography and photograph of Mr. Fleming were published in *Railway Age* February 16, 1953, page 58.

Leo A. Ordick has been appointed assistant general freight agent at Detroit. **Walter Bennetts** has been appointed assistant to freight traffic manager there. **J. L. Moon** has been appointed division freight agent at Kalamazoo, Mich., and **E. W. Hanning** has been named general agent at Lansing.

R. P. Corporon has been appointed electronics engineer at New York, succeeding **A. Auerbach,** resigned.

PENNSYLVANIA. — Milton G. Koon, coal freight agent at Chicago, retired February 1.

Ward H. Wait, special agent in the freight traffic department at Chicago, has been advanced to assistant general freight agent there to succeed the late **E. A. Kearnes. Leo J. Lynn,** district coal agent, has been named coal freight agent, succeeding **Milton G. Koon,** who retired February 1.

Harry L. Jones, assistant general claim agent, has been apponited general claim agent, with headquarters as before at Philadelphia, succeeding **Keller L. Sheeler,** who has been named manager of claims research.

F. B. Kraus has been appointed

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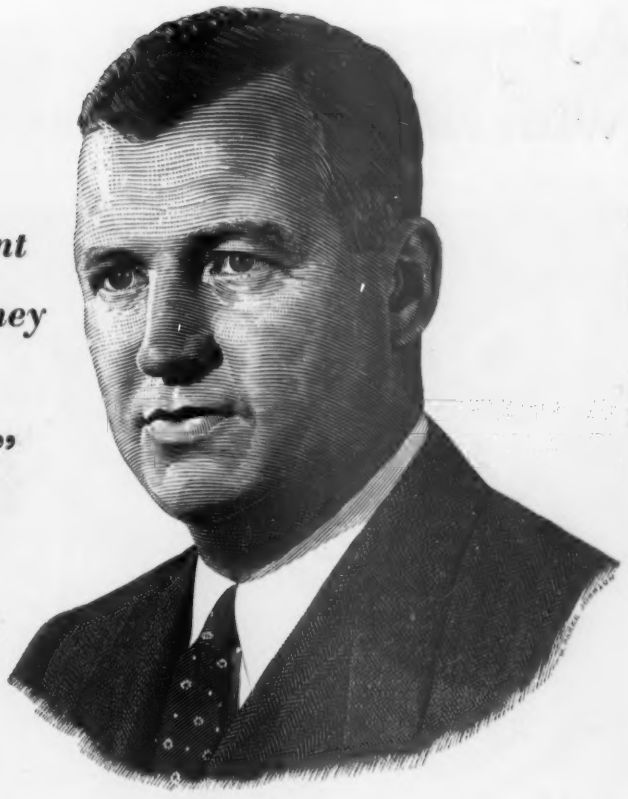

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Here are a few facts and figures:

• For every dollar of public debt held by a commercial bank, about five new dollars may be created in the form of credit. Obviously, the larger the amount of the public debt held by individuals, the greater the check on inflationary tendencies.

• At the end of 1953, the cash value of Series E and H Bonds *held* by individuals was more than 36 billion dollars. This total is growing steadily, thanks largely to the month after month purchases of Series E Bonds by more than 8,000,000 Payroll Savers.

• Sales of E and H Bonds in 1953—23% higher than in 1952—provided cash for *all* E and H Bond maturities and redemptions and still left over $210,000,000 *net* for the reduction of bank-held debt.

• The ownership of more than $36,000,000,000 in Savings Bonds by millions of Americans constitutes a reservoir of future purchasing power—an asset to industry and business as well as to the individuals who built it by their Bond-conscious thrift.

Why not team up with Mr. Peale and other leaders of industry in their efforts to help America reach its goal of wise public debt management and sound money? All you have to do is (1) show a *personal* interest in your Payroll Savings Plan. Get the figures on the percentage of employee participation and the amount of monthly savings by your employees. (2) Wire, phone or write to Savings Bond Division, U. S. Treasury Department, Washington, D. C. You'll get all the help you need to build up or install a Payroll Savings Plan that will reflect your company and its interest in America.

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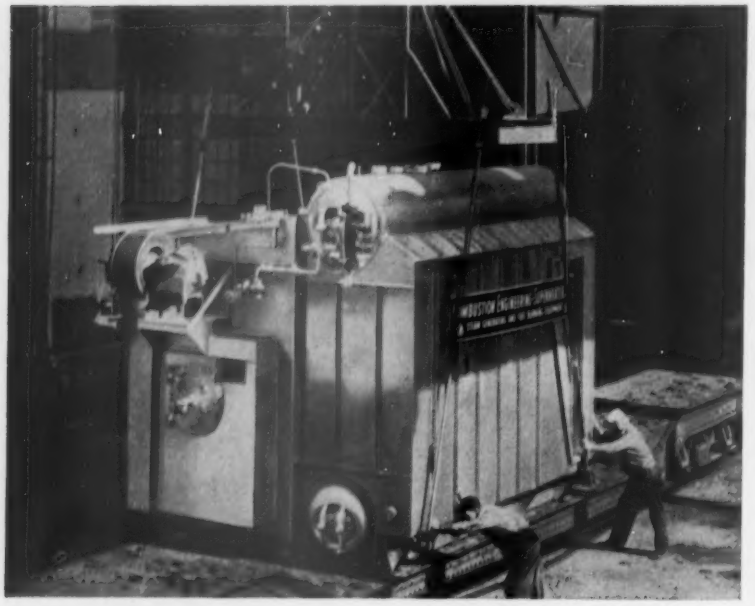

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Readily adaptable to Railroad Shops and Terminals.

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All Types of Steam Generating, Fuel Burning and Related Equipment

acting superintendent of the Maryland division.

PITTSBURGH & LAKE ERIE.—Earl G. Brisbin has been named engineer maintenance of way and **James J. Wright** has been appointed manager of equipment (*Railway Age* February 15). Mr. Brisbin, a native of Adrian, Mich., joined the Michigan Central in 1916 and was division engineer of that road at Jackson at the time of his recent appointment.

Earl G. Brisbin

James J. Wright

RAILWAY EXPRESS AGENCY.—The executive offices at New York have been moved from 230 Park avenue to 219 East 42nd street, New York 17.

ROCK ISLAND.—Frank E. Nelson has been named industrial agent at Chicago.

SEABOARD.—Jean Jones, assistant valuation engineer, has been named valuation engineer, at Portsmouth, Va., succeeding **Thomas W. Roby,** who has retired after 40 years of service.

OBITUARY

William J. Fleming, supervisor of dining and parlor cars of the **Gulf, Mobile & Ohio,** died February 11 at St. Luke's Hospital, Chicago.

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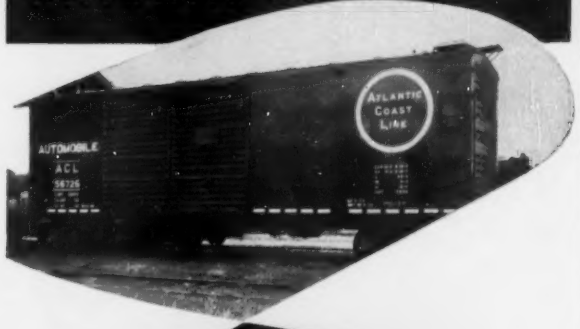

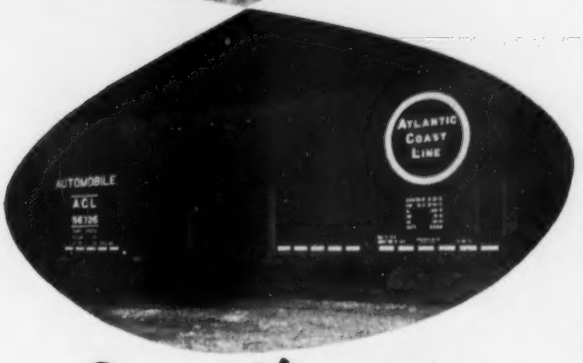

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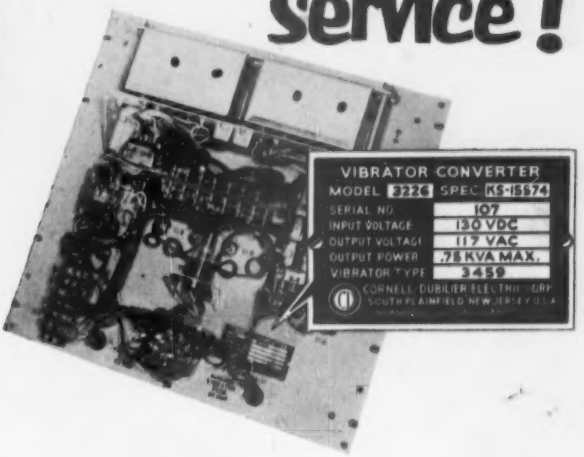

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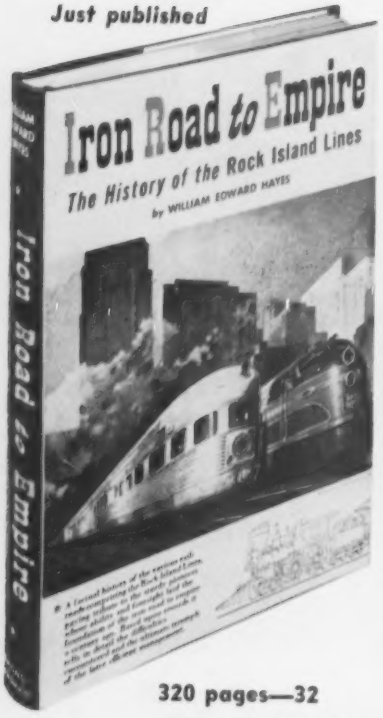

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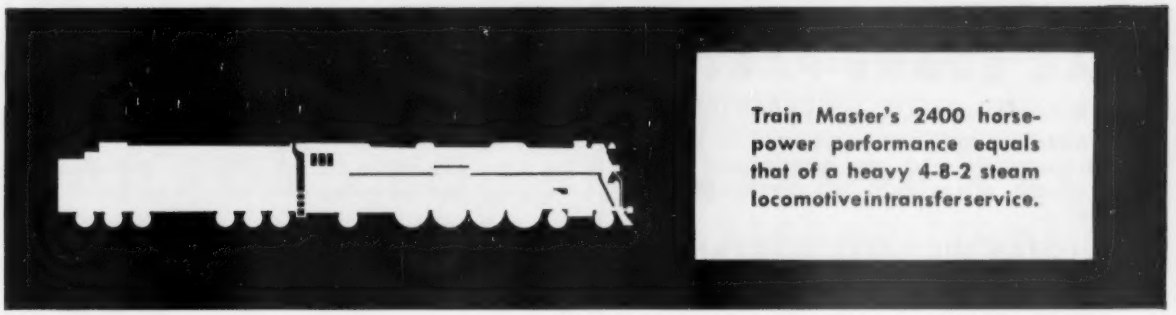

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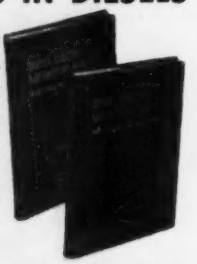

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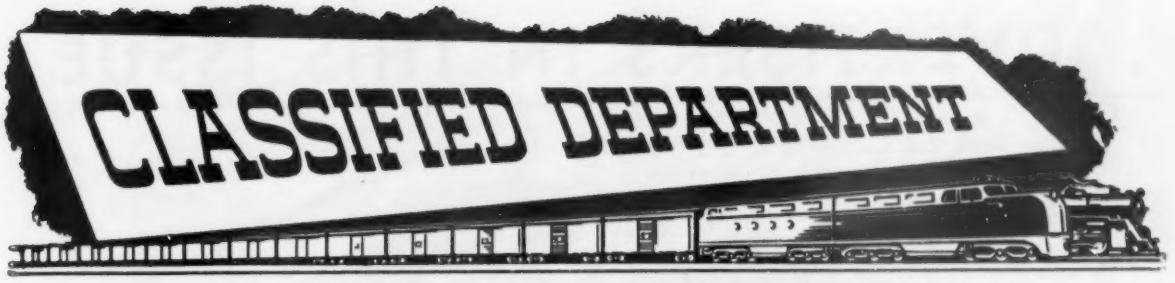

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